Technics

KEYBOARD

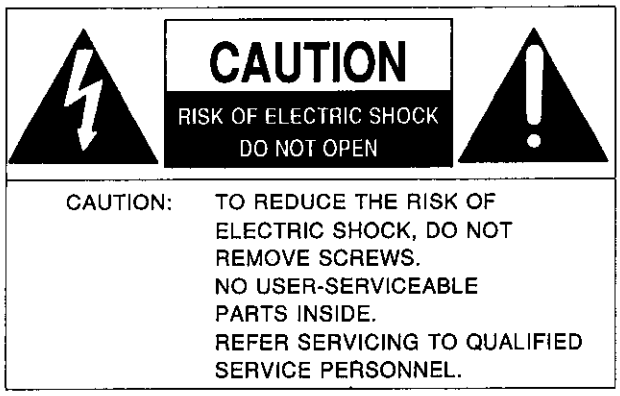
SX-KN1000

ENGLISH

EK EP MC PA X XD XL XM XR XS

QQTG0071B

OWNER'S MANUAL


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution

Voltage (except North America, Mexico and Europe excluding United Kingdom)

Be sure the voltage adjuster located on the rear panel is in accordance with local voltage in your area before using this unit. Use a screwdriver to set the voltage adjuster to the local voltage.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

BEFORE YOU PLAY, PLEASE READ THE CAUTIONARY COPY APPEARING ON PAGE 118.

FOR CANADA

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

POUR CANADA

L'interférence radioélectrique générée par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

Before you play

For long and pleasurable use of this instrument, and to gain a thorough understanding of your KN1000 Keyboard, it is strongly recommended that you read through this Owner's Manual.

The Owner's Manual is comprised of:

BASIC FUNCTIONS	This section includes an explanation of basic procedures and points you should be aware of for proper operation of your instrument.
PRACTICAL APPLICATIONS	This section comprises a detailed explanation of sounds, effects, rhythms, **SEQUENCER**, **COMPOSER**, Digital Disk Recorder, function-setting, and MIDI functions.
SOUND AND RHYTHM GUIDE	Reference guide for the contents of the **SOUND VARIATION** settings, **RHYTHM VARIATION** settings, etc.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY. (for UNITED KINGDOM)

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ♆ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic/Technics Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT: —The wires in this mains lead are coloured in accordance with the following code:—

Blue: Neutral
Brown: Live

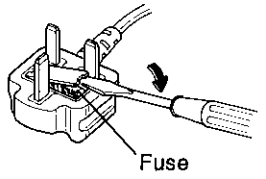
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three-pin plug, marked with the letter E or the Earth Symbol ⏚.

How to replace the fuse. Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



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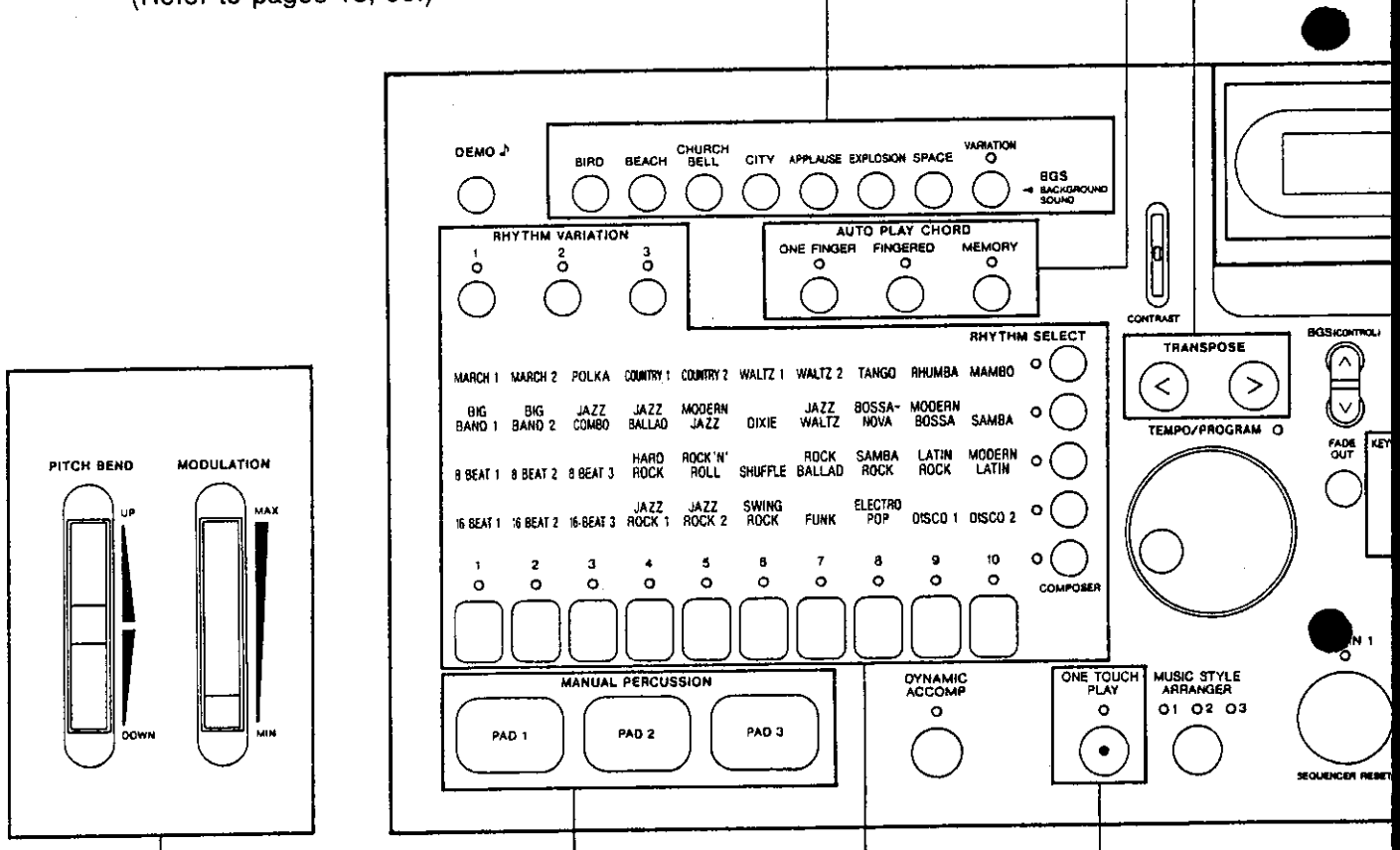
*Already installed in some areas.

Controls and functions

TRANSPOSE
Raise or lower the key of the entire keyboard. (Refer to page 29.)

AUTO PLAY CHORD
Add an automatic accompaniment to your selected rhythm. (Refer to pages 14, 34.)

BACKGROUND SOUND (BGS)
You can add background sounds, such as the chirping of birds and the sound of waves on the beach, to your performance. (Refer to pages 18, 30.)



MANUAL PERCUSSION
Add percussion instrument sounds to your performance with the **PAD** buttons. (Refer to pages 19, 33.)

ONE TOUCH PLAY
Sounds and effects matching the selecte rhythm are automatically set. (Refer to pages 15, 38.)

PITCH BEND/MODULATION
The **PITCH BEND** wheel allows a "sliding" change in the pitch. The **MODULATION** wheel is to add vibrato to the sound. (Refer to pages 11, 28.)

RHYTHM SELECT
Choose from 40 preset automatic rhythm patterns. Each rhythm pattern also has three variations. (Refer to pages 12, 31.)

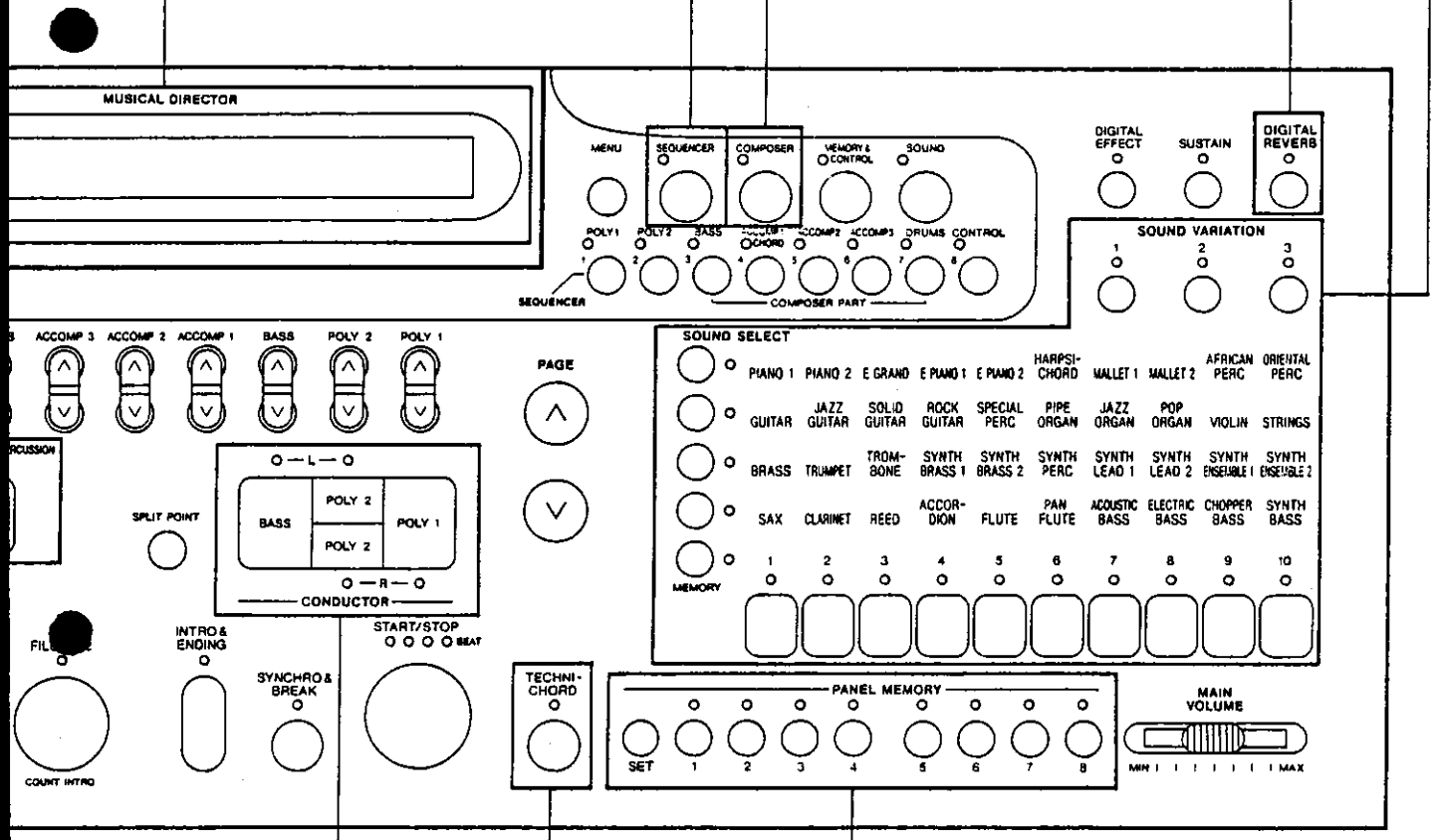
MUSICAL DIRECTOR
Displays performance information, function settings and other messages. (Refer to page 21.)
- Set it to the angle at which it is easiest to read.

SOUND SELECT
You can select from 40 different sounds and the three variations available for each sound. (Refer to pages 10, 24.)

COMPOSER
Create and store original rhythm patterns. (Refer to page 56.)

SEQUENCER
Record and play back your performance. (Refer to pages 16, 67.)

DIGITAL REVERB
Add reverberation to the sound. (Refer to pages 11, 28.)



CONDUCTOR
Assign a different sound to each part, then assign the desired parts to sections of the keyboard. (Refer to page 25.)

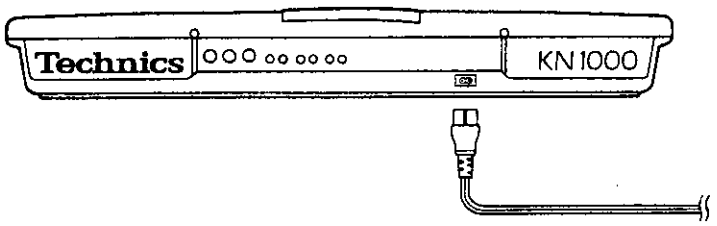
PANEL MEMORY
Store the panel settings, then recall them instantaneously just by pressing a button. (Refer to page 40.)

KEYBOARD PERCUSSION
Play a percussion performance on the keyboard. (Refer to pages 18, 33.)

TECHNI-CHORD
Block chords are automatically added to the melody. (Refer to page 37.)

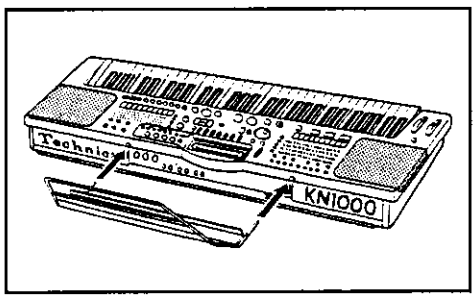
Getting started

Before you play

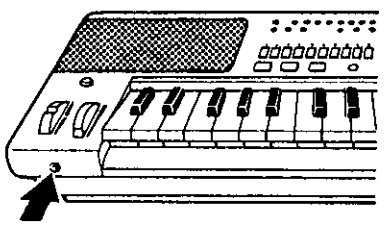


1 Plug the power cord into an outlet.

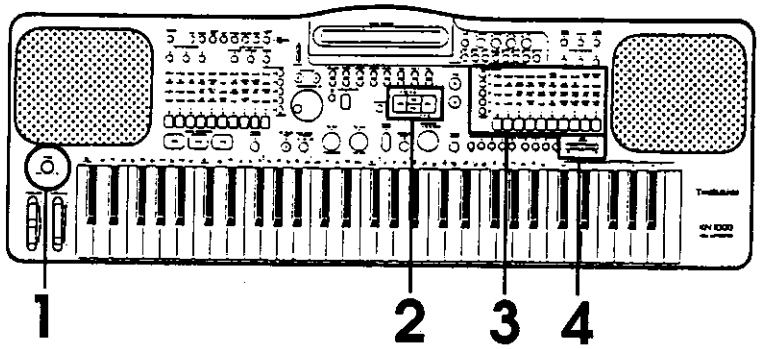
2 Affix the music stand as shown.



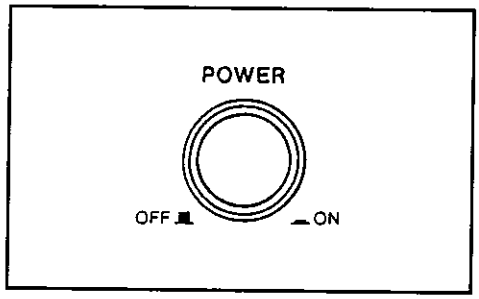
- Headphones (sold separately) may be plugged into the headphones terminal. This will automatically switch off the speaker system, and sound is heard only through the headphones.



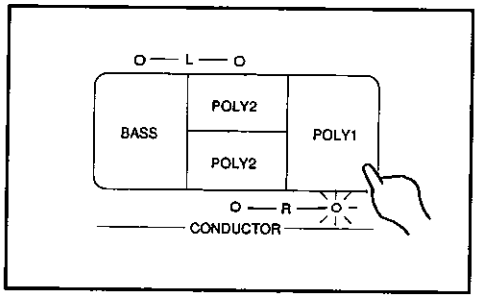
Playing



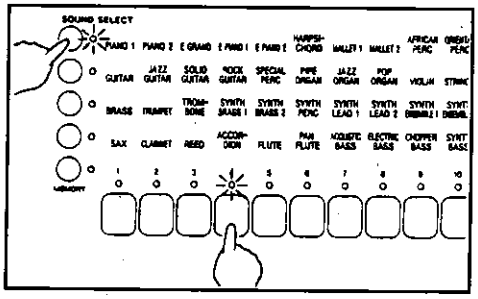
1 Press the **POWER** button to turn it on.



2 In the **CONDUCTOR** section on the panel, press the **POLY 1** button to turn it on.

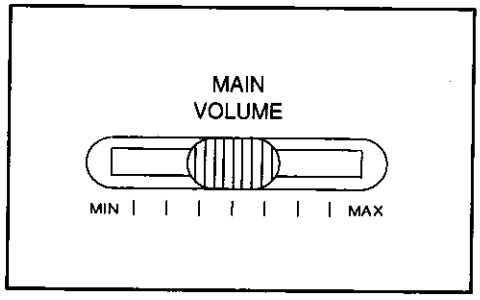


3 Use the vertical and horizontal row buttons in the **SOUND SELECT** matrix to select **E PIANO 1**.



♪ Touch any note on the keyboard. You will hear the **E PIANO 1** sound.

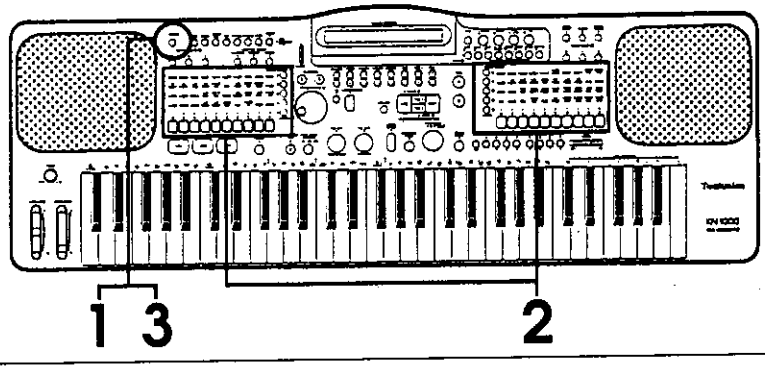
4 Set the **MAIN VOLUME** to an appropriate level with the sliding control.



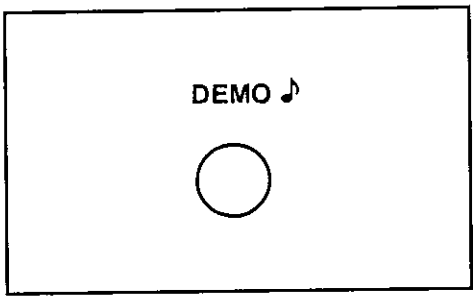
- Your Keyboard features Touch Response. You control the volume by playing the keys harder or softer.

Listen to the demonstration

Listen to a particular sound or rhythm demonstration.

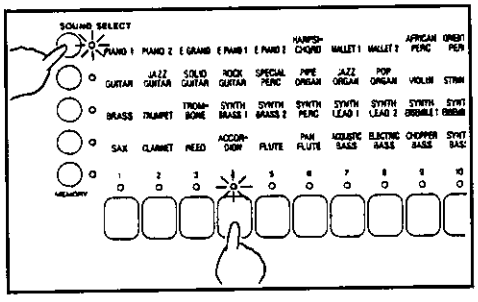


1 Press the **DEMO ♪** button.



- The display changes to the DEMONSTRATION SONG display.

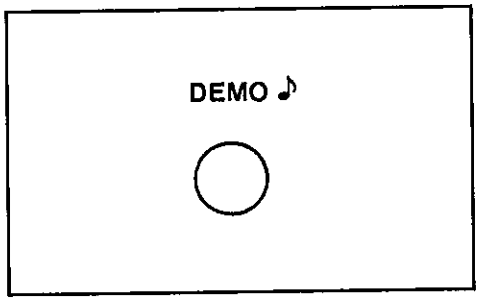
2 Press a vertical-row button and horizontal-row button whose indicators are flashing (in the **SOUND SELECT** or **RHYTHM SELECT** matrix), or any other button with a flashing indicator.



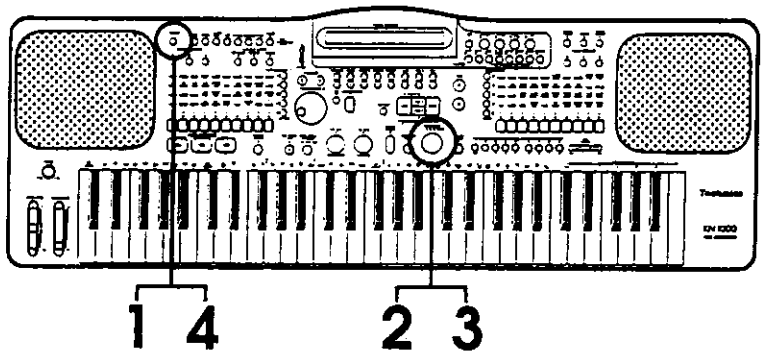
♪ The demonstration performance corresponding to your selection will begin.

- Repeat this procedure to listen to other sounds, rhythms and features.
- To end the demonstration before it has finished, press the button with the flashing indicator.

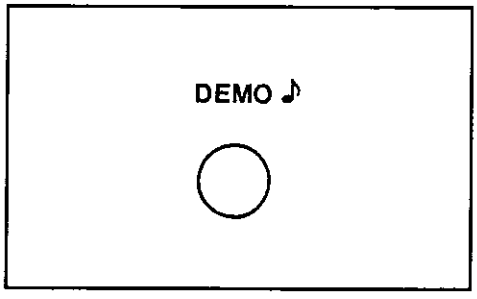
3 When you are finished listening to the demonstration tunes, press the **DEMO ♪** button again.



Listen to the demonstration tunes in order.

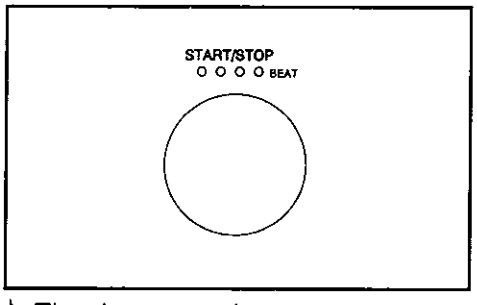


1 Press the **DEMO** ♪ button.



- The display changes to the DEMONSTRATION SONG display.

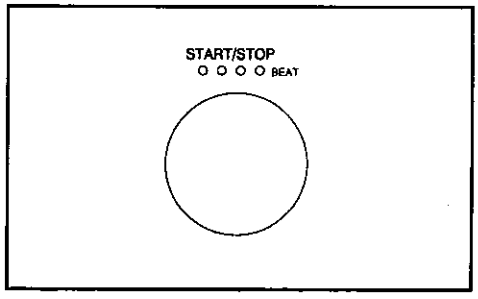
2 Press the **START/STOP** button.



♪ The demonstration tunes are played in order.

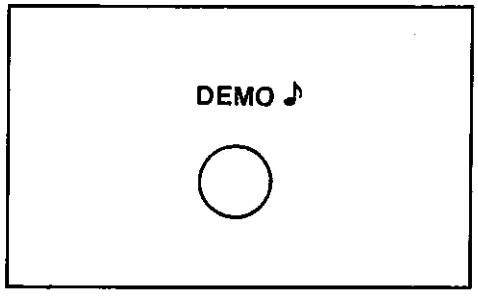
- If you press the button with the flashing indicator during the demonstration performance, the current tune stops and the following tune begins.

3 To stop the demonstration performance, press the **START/STOP** button again.



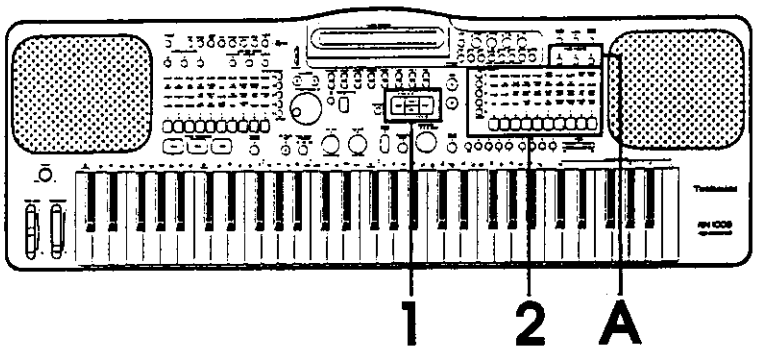
- The tunes are repeated in order until the **START/STOP** button is pressed.

4 When you are finished listening to the demonstration tunes, press the **DEMO** ♪ button again.

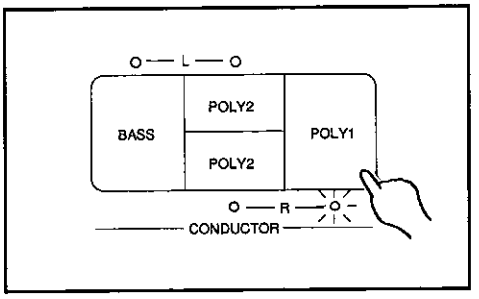


- The other buttons and keys do not function while the demonstration performances are being played.

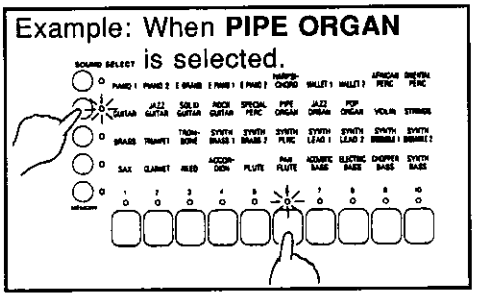
Selecting other sounds



1 In the **CONDUCTOR** section, turn on the **POLY 1** button.

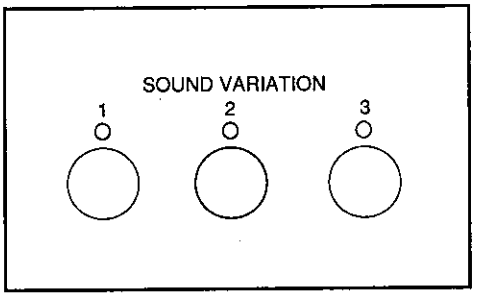


2 Use the vertical- and horizontal-row buttons in the **SOUND SELECT** matrix to choose a sound.



Select a variation.

A Press one of the **SOUND VARIATION** buttons (**1**, **2** or **3**).

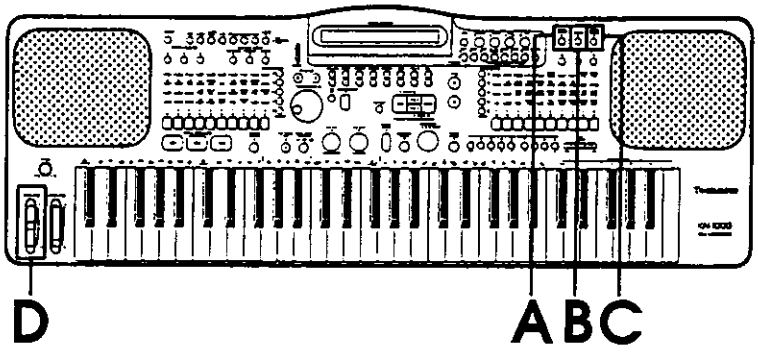


♪ The display changes to show the names of the variations.

- A ■ mark indicates the selected variation.
- The display returns to the regular display after a few seconds.

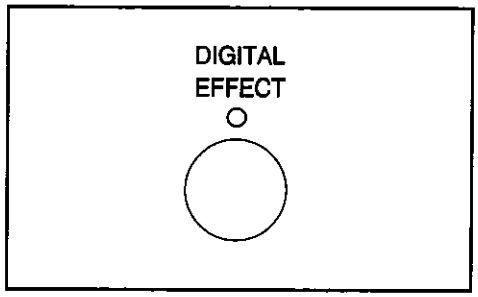
- Other things you can do are mixing sounds and playing different sounds on the left and right areas of the keyboard. (Refer to pages 26 and 27.)

Add effects



Add a feeling of spaciousness to the sound.

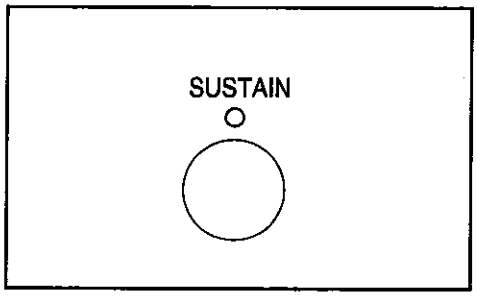
A Turn on the **DIGITAL EFFECT** button.



♪ The sound is broader and deeper.

Add sustain.

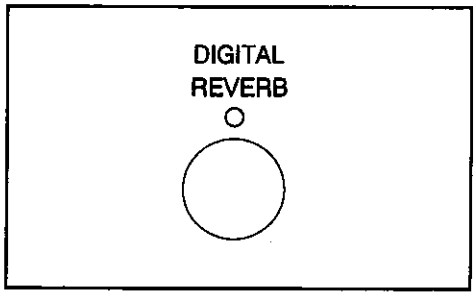
B Turn on the **SUSTAIN** button.



♪ Play and release a key. The tones fade out gradually after the key is released.

Add reverberation.

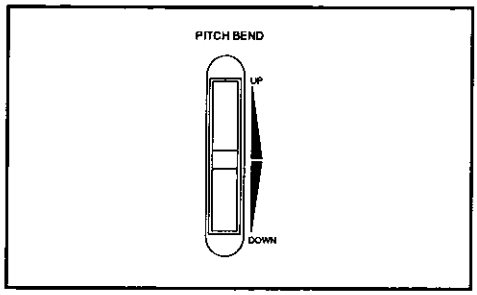
C Turn on the **DIGITAL REVERB** button.



♪ The reverberation effect is applied to all sounds.

Change the pitch.

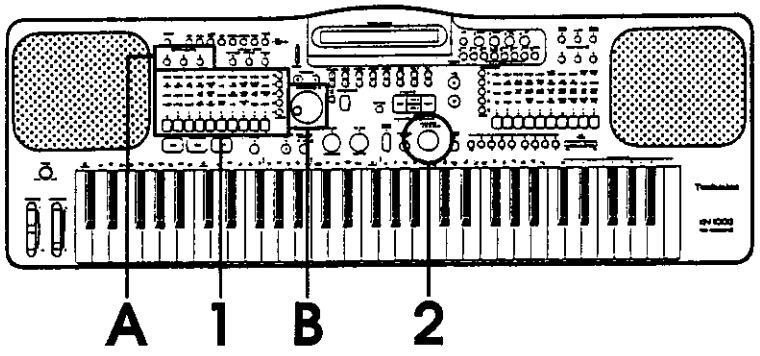
D While playing a key on the keyboard, move the **PITCH BEND** wheel up and down.



♪ The pitch of the played key slides up and down, as when you bend the strings on a guitar.

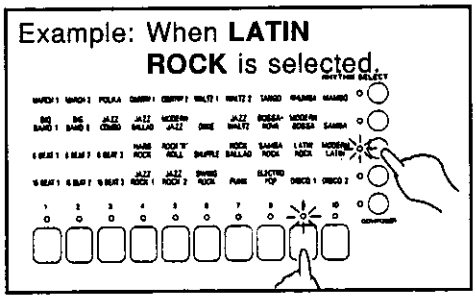
- The **DIGITAL EFFECT** is preset to on for some sounds and automatically turns on when these sounds are selected.
- The **DIGITAL EFFECT** feature is more effective for some sounds than for others.

Playing automatic rhythms

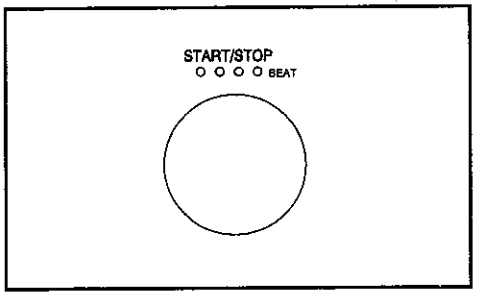


1 In the **RHYTHM SELECT** matrix, use the vertical and horizontal row buttons to select the desired rhythm.

Example: When **LATIN ROCK** is selected.



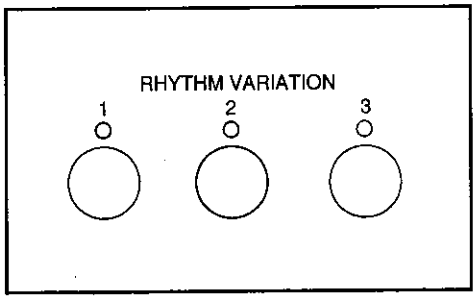
2 Start the rhythm by pressing the **START/STOP** button.



- Stop the rhythm by pressing the **START/STOP** button again.

Select a variation.

A Press one of the **RHYTHM VARIATION** buttons (**1**, **2** or **3**).

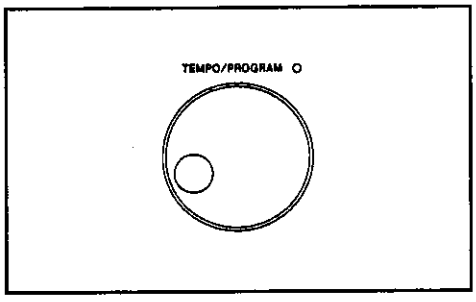


♪ The display changes to show the names of the variations.

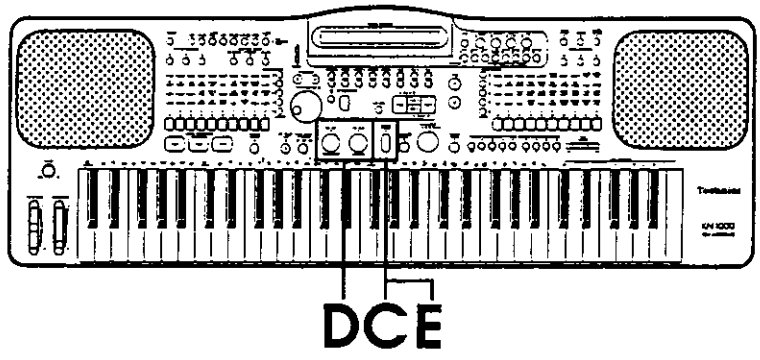
- A ■ mark indicates the selected variation.
- The display returns to the regular display after a few seconds.

Adjust the tempo.

B Adjust the tempo with the **TEMPO/PROGRAM** dial.

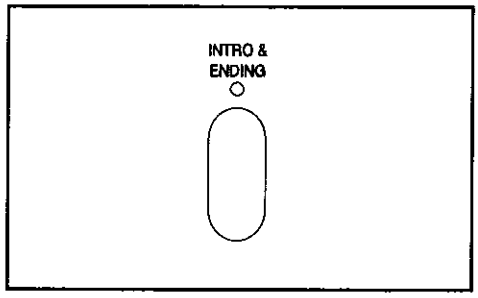


- The tempo is shown in the upper left of the display as "♩= ".



Insert an intro pattern.

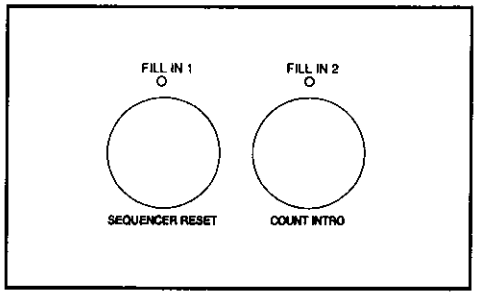
C To start your performance with an introduction, press the **INTRO & ENDING** button before starting the rhythm.



♪ An intro is played, after which the regular rhythm starts.

Insert a fill-in pattern.

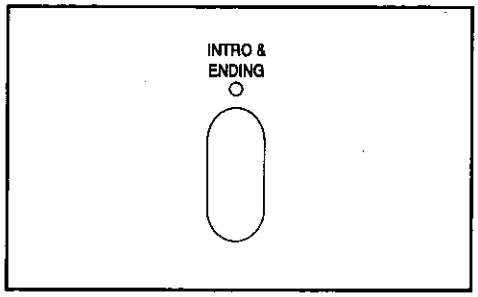
D While the preset rhythm pattern is playing, press either the **FILL IN 1** or **FILL IN 2** button.



♪ A fill-in pattern immediately starts to play.

Insert an ending pattern.

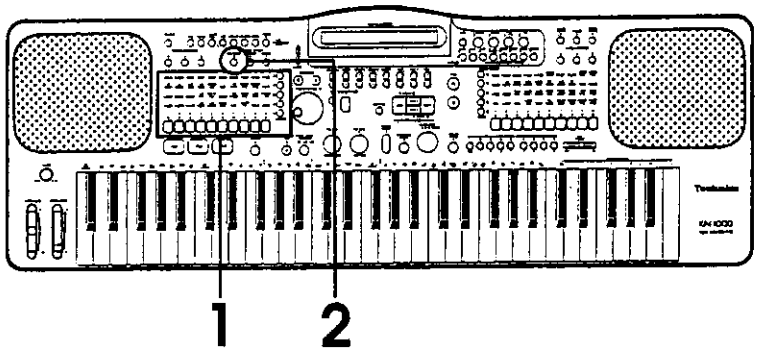
E While the rhythm is playing, press the **INTRO & ENDING** button.



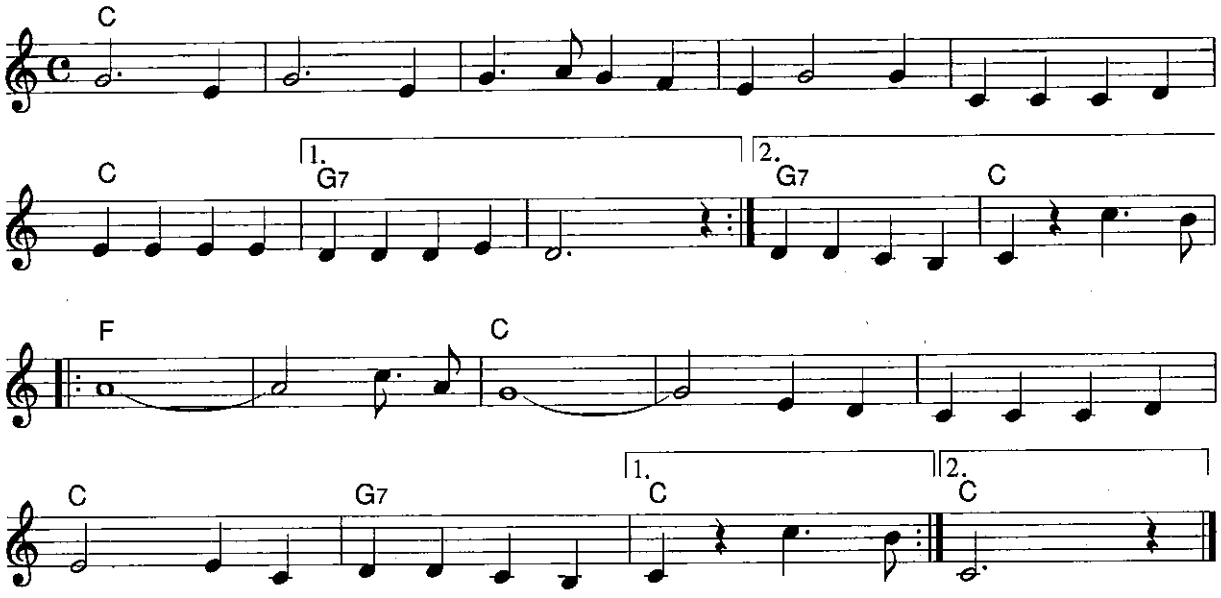
♪ You will hear an ending pattern, and then the rhythm stops.

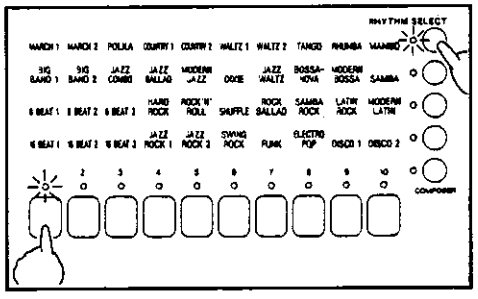
Automatic accompaniment

Use the AUTO PLAY CHORD

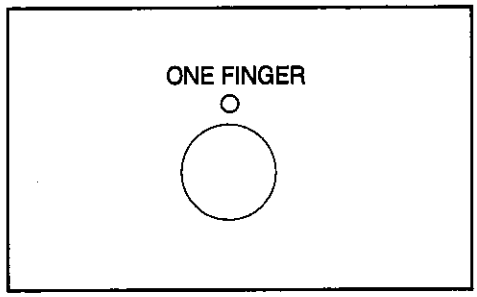


Use the **AUTO PLAY CHORD** with the following tune.

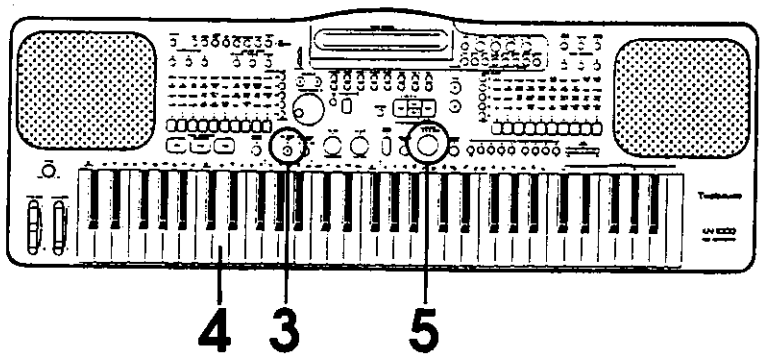
She Wore A Yellow Ribbon

1 In the **RHYTHM SELECT** matrix, select the **MARCH 1** rhythm.



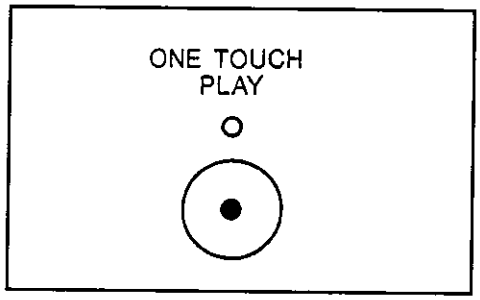
2 Turn on the **ONE FINGER** button.



- The keyboard automatically divides into left and right playing areas.

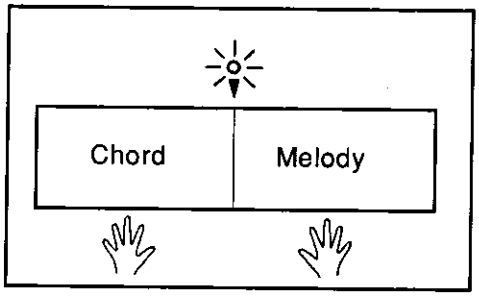


3 Press and hold the **ONE TOUCH PLAY** button until the panel settings change.

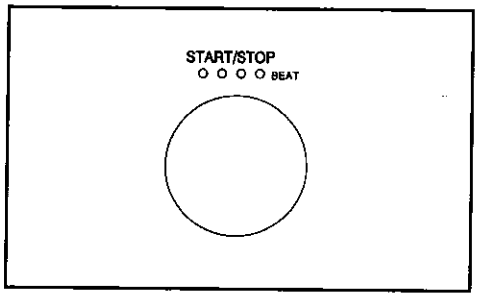


- Pressing a key on the left area of the keyboard will cause the automatic rhythm pattern to start playing (synchro start).
- When the C key is pressed on the left area of the keyboard, an accompaniment begins to play in the C major key.
- Playing the chord key (root note) and the white key to its left will produce a 7th chord.

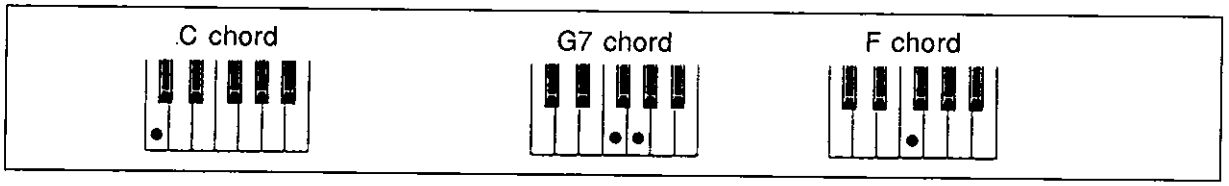
4 Use your left hand to play the chords and your right hand to play the melody.



5 At the end of your performance, press the **START/STOP** button.



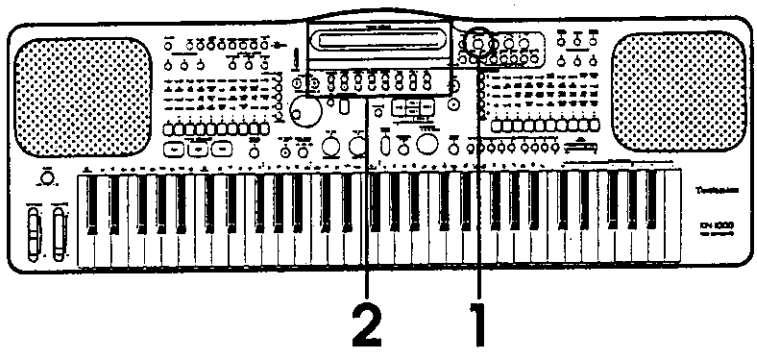
- The automatic accompaniment stops.



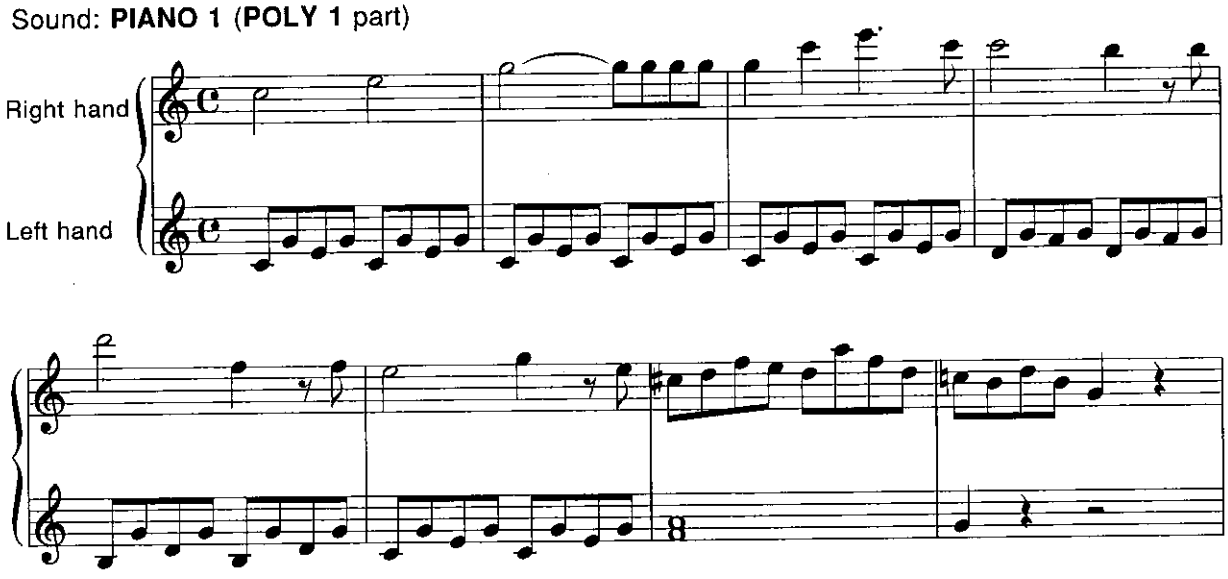
- In this example you played chords by pressing the keys for the "root notes" (**ONE FINGER** chords). But you can also specify the chord by playing all the notes in the chord. (Refer to page 35.)
- You can create your own accompaniment patterns with the **COMPOSER**. (Refer to page 56.)

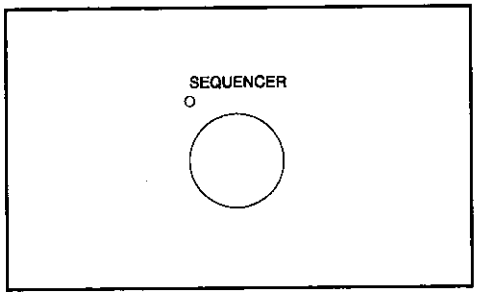
Record your performance

Use the **SEQUENCER** to record your performance.



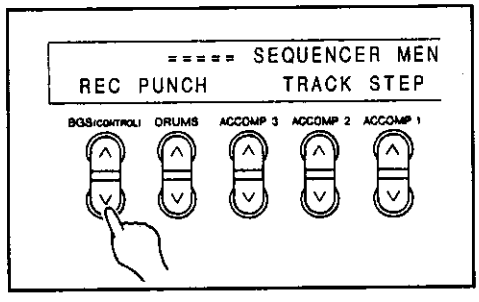
Sonatina

Sound: **PIANO 1** (**POLY 1** part)

1 Turn on the **SEQUENCER** button.

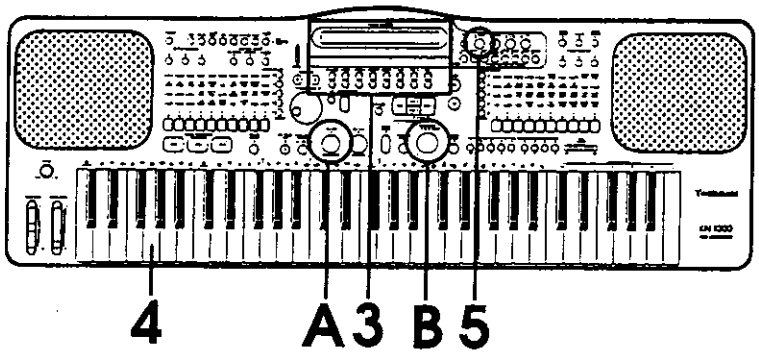


- The display changes to the SEQUENCER MENU display.

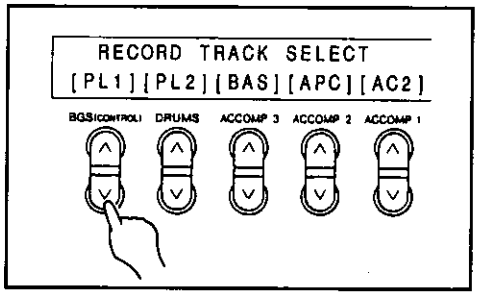
2 Press either **BGS** balance button (directly under "REC" on the display).



- The display changes to the RECORD TRACK SELECT display.



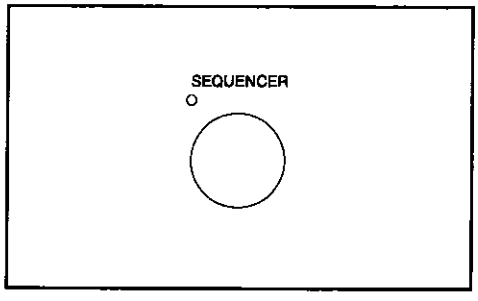
3 Press either **BGS** balance button (directly under [PL1] on the display).



- The display changes to the REAL REC display.

4 Play the song on the keyboard.

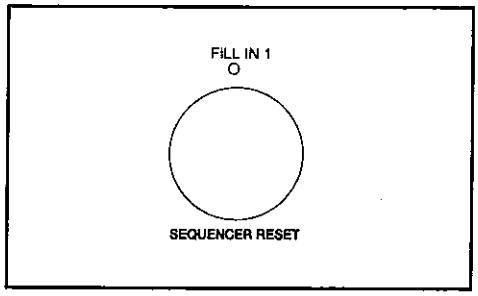
5 When you have finished playing, press the **SEQUENCER** button again to turn it off.



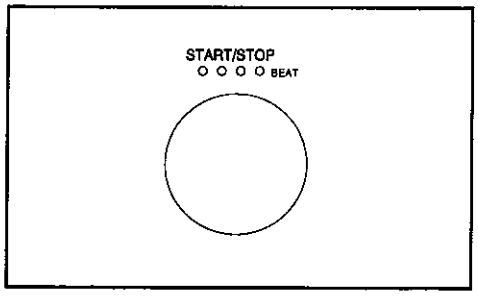
- Confirm that the indicator for the **POLY 1** button (to the right of the display) is lit.

Playing back your recorded performance

A Press the **SEQUENCER RESET** (**FILL IN 1**) button.



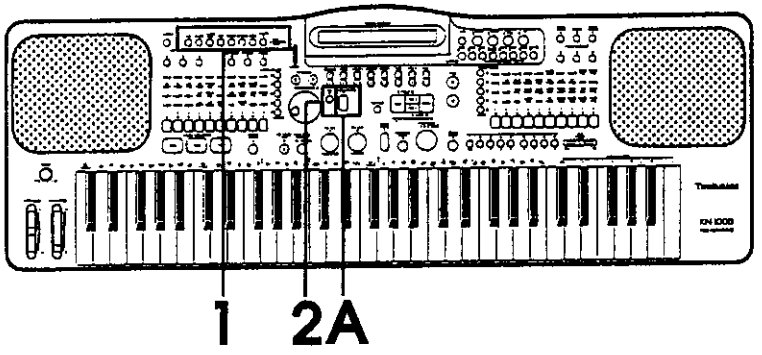
B Press the **START/STOP** button.



♪ Your performance is played back just as you recorded it.

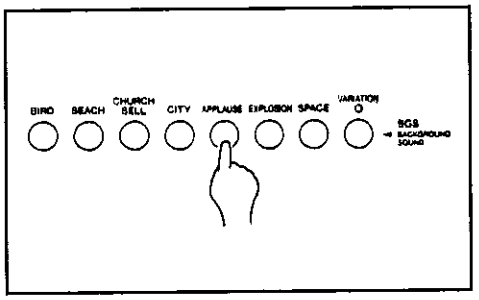
- You can also record several parts individually and then have them played back together for an ensemble performance. (Refer to page 72.)

Other features



Add background sounds to your performance.

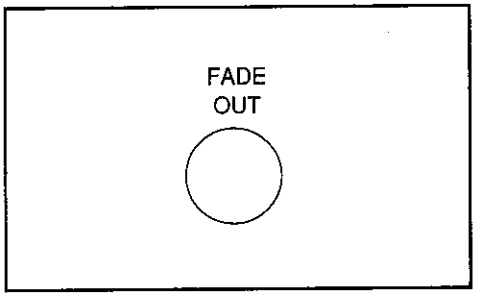
1 Press a **BACKGROUND SOUND (BGS)** button.



♪ The selected background sound begins immediately.

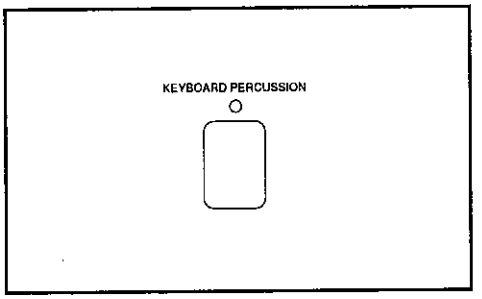
- You can turn on the **VARIATION** button to select the variation sound.

2 Press the **FADE OUT** button once for the background sound to fade out slowly. Press it twice to turn off the background sound instantaneously.

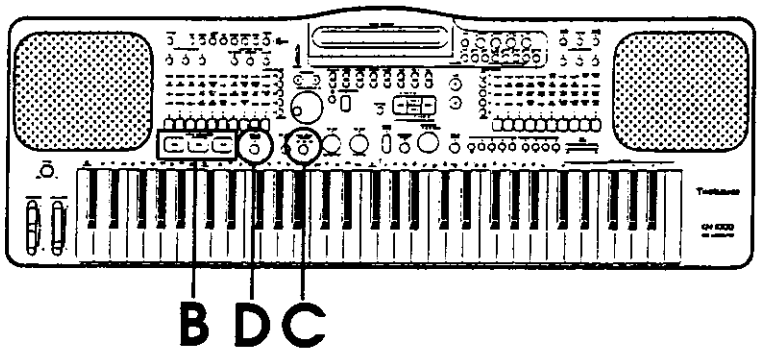


Play percussion instruments on the keyboard.

A Turn on the **KEYBOARD PERCUSSION** button.

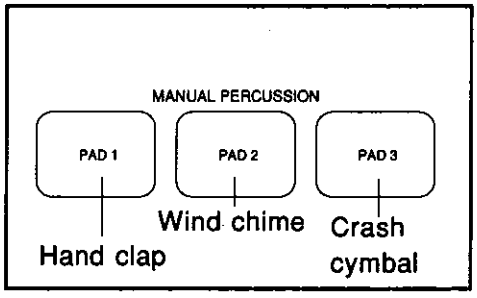


♪ Play the keyboard. Percussion instrument sounds correspond to the illustrations above the keyboard keys.



Play percussion instruments with the PAD buttons.

B Press the **PAD** buttons in the **MANUAL PERCUSSION** section.

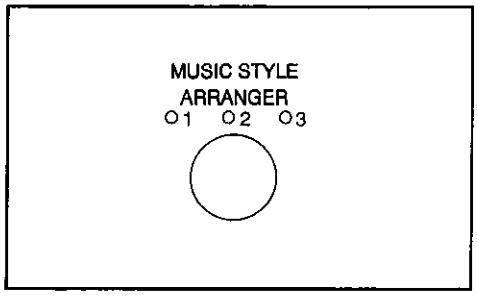


♪ A percussion instrument sound is produced by each **PAD** button.

- You can play **PAD** buttons during your keyboard performance.
- The desired percussion sound can be assigned to each of the **PAD** buttons. (Refer to page 34.)

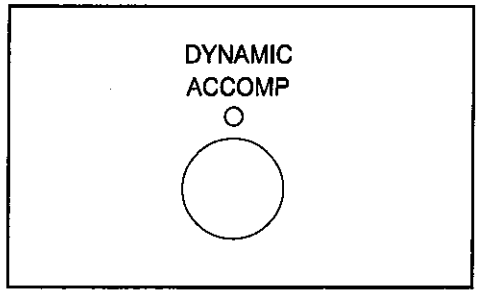
Change the AUTO PLAY CHORD pattern.

C Press the **MUSIC STYLE ARRANGER** button to select **1**, **2** or **3**.



- Type **1** is a simple accompaniment pattern, **2** a normal pattern and **3** a flashy pattern.

D Turn on the **DYNAMIC ACCOMP** button.



- The pattern changes depending on the chord you play, how hard you press the keys, and other factors.

Applications

Your Technics SX-KN1000 Keyboard is an all-in-one type electronic musical instrument which includes all the necessary operations for creating music in one unit. Follow the instructions in your Owner's Manual for all of the features described below to master your instrument.

Sounds and effects

Select from 120 colorful sounds to match any type of music or style of playing. Multiply the sound possibilities by adding realistic effects.

Automatic rhythm

From conventional rhythms to the newest popular rhythms—choose from rhythm patterns from all over the world. Use intro and fill-in, etc. for a more high-level rhythm performance.

Automatic accompaniment

AUTO PLAY CHORD lets you enjoy a real automatic accompaniment just by specifying the chords with your left hand. If you use the automatic setting function, you can set even complicated panel settings quickly and easily, and start to play music of any genre immediately.

Adjusting sounds

You can adjust the settings for each sound and effect to your taste, allowing you to get just the right sound for any musical performance.

Creating your own sounds

Edit the preset sounds to create those special sounds you have in mind. Save your creations in the **SOUND SELECT** memory, and then select them just like the preset sounds.

Create your own rhythm pattern

Use the **COMPOSER** to create your own rhythm patterns and automatic accompaniment patterns. Store them in the **COMPOSER** memory so you can select them at any time, just like the preset rhythms.

Store your performance

Record an entire performance in the **SEQUENCER** memory and then have it played back any time, as often as you like. You can record your performance just as it is, or record each part separately and then have all the parts played back together for an ensemble performance.

Control

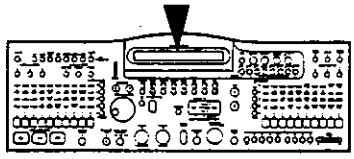
Various functions can be set to your liking, giving you complete control over your instrument, and providing you with even greater expressive power.

Preserving your performance

If you use the Digital Disk Recorder, you can store up to 20 performances on one memory disk. It's easy to keep a whole library of performances.

MIDI

Your Keyboard has MIDI connectors and controls, allowing you to use it with other MIDI instruments and equipment.

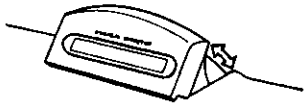


About the display

The **MUSICAL DIRECTOR** is used to show the status of the instrument and to set various functions on this instrument.

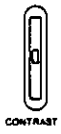
Display angle

Change the angle of the display so that it is easy to read.



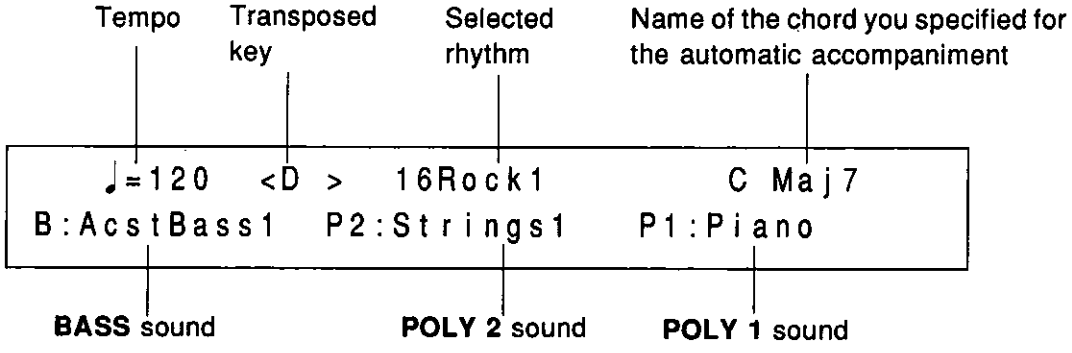
Contrast

The brightness of the display is adjusted with the **CONTRAST** sliding control located to the left of the display.



Normal performance display

The normal display (that is, the display you can see when you are not using the function-setting or recording features) is as shown here.

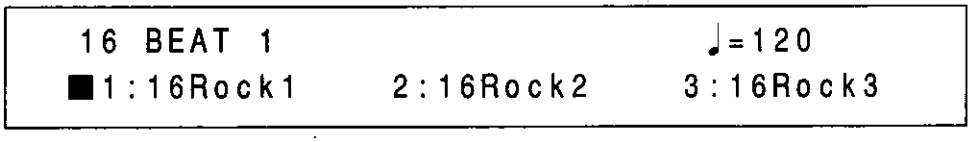


Variation display

When you press a **SOUND VARIATION** or **RHYTHM VARIATION** button, the possible selections for your specified sound or rhythm are shown on the display. (Refer to pages 24 and 31.)

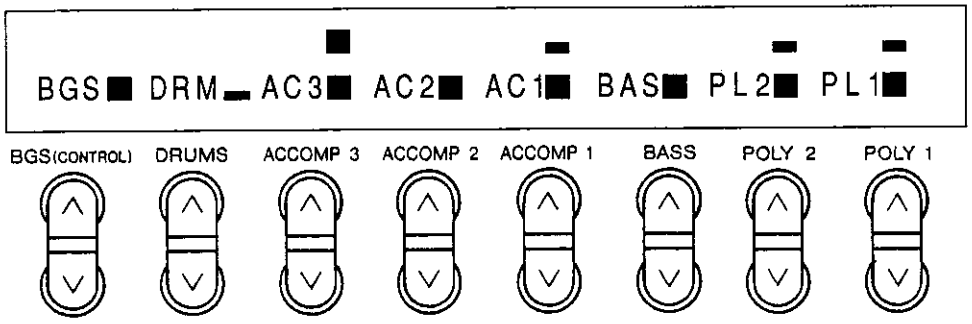
Sound

Rhythm



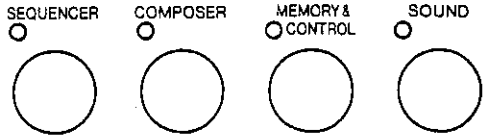
Balance display

When you press any of the 8 buttons directly below the **MUSICAL DIRECTOR**, the volume of each part is indicated on the display. (Refer to page 26.)



Function-setting display

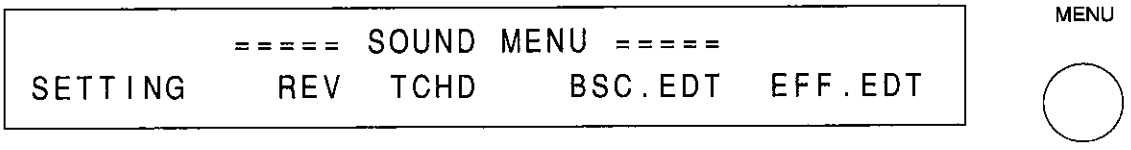
When one of the buttons shown here is pressed, the display changes to show the functions which can be set for the respective feature.



MENU

When one of the buttons shown above is pressed, the respective "menu display" appears. Then you can select from the menu for the specific functions you wish to set. After making your selection, you can return the display to the menu display at any time by pressing the **MENU** button.

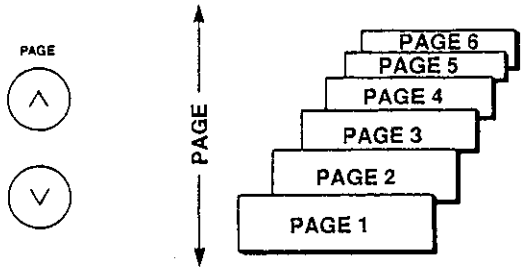
Example: Menu display for the **SOUND** button



PAGE

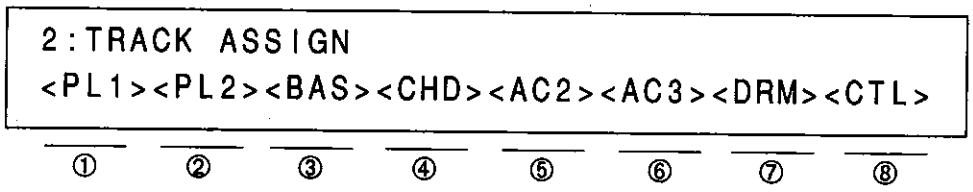
The complete display for the selected menu function may consist of several numbered displays, or "pages," which cover all of the settable items for that specific function. The **PAGE** buttons are used to change the display to the next higher or lower page.

- A list of pages for each menu can be found in the separate "Sound and Rhythm Guide" provided.



Function-setting buttons

The 8 balance buttons directly below the display are used in conjunction with the display to set the various functions. In this manual, when a button number ①~⑧ is mentioned in the instructions for setting a function, it refers to these buttons, numbered from left to right as shown here.



Examples of instructions you will find in this manual

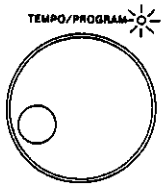
Example 1: "Press either ① button."

This means that you should press either balance button (upper or lower) in the ① position (**BGS**).

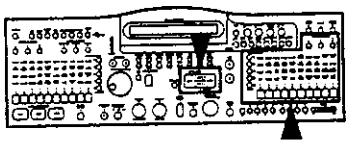
Example 2: "Set the value with the ⑥ buttons."

This means that you should use the upper and lower balance buttons in the ⑥ position (**BASS**) to change the number shown in the display.

- Each press of the upper button increments the number and each press of the lower button decrements the number.
- If the **TEMPO/PROGRAM** dial's green indicator light illuminates when a balance button is pressed, you can also use the **TEMPO/PROGRAM** dial to change the number shown in the display.



Part I Sounds and effects

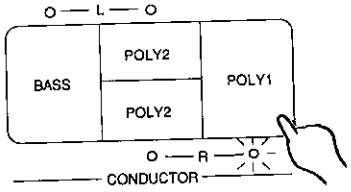


Selecting sounds

You play by first selecting the desired sounds from those which have been permanently programmed in your Keyboard. For each sound you select, there are three variations available for you to choose from.

Select a sound

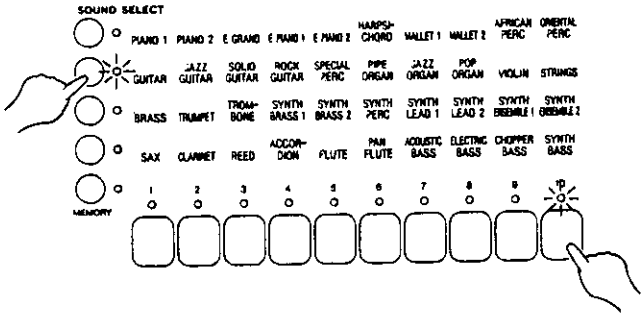
1. In the set of **CONDUCTOR** buttons, press the **POLY 1** button to turn it on.



- The **POLY 1** indicator lights.

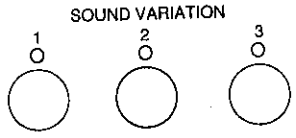
2. In the **SOUND SELECT** matrix, press one button in the vertical row and one button in the horizontal row to select a sound.

Example: To select **STRINGS**



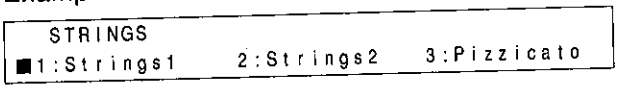
- The indicators for the buttons you press light.
- The bottommost horizontal row is reserved for sounds you create and store using the **SOUND** feature. (Refer to page 46.)

3. Press the **SOUND VARIATION 1**, **2** or **3** button to select the desired sound variation.



- When one of the **SOUND VARIATION** buttons is pressed, the display changes to show the names of the available variations. A ■ mark appears to the left of the selected variation.

Example: Variations for **STRINGS**



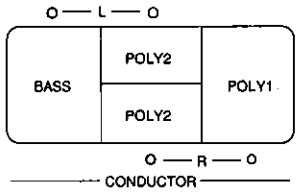
- After a few seconds, the display returns to the normal display.
- ♪ Try playing the keyboard to hear the sound you have selected.
- The notes from a maximum of 8 simultaneously pressed keys can sound, and up to 32 notes can sound at one time.
- A list of sound variations can be found in the separate "Sound and Rhythm Guide" provided.
- The selected variation is memorized for each sound independently. When you select that sound again, the same variation will still be in effect.

Selecting a sound for each part

If you use the **CONDUCTOR** to select different sounds for the **POLY 1**, **POLY 2** and **BASS** parts, just by pressing the **CONDUCTOR** buttons you can recall a sound instantaneously, or you can assign a different sound to each part of the keyboard.

Selecting parts

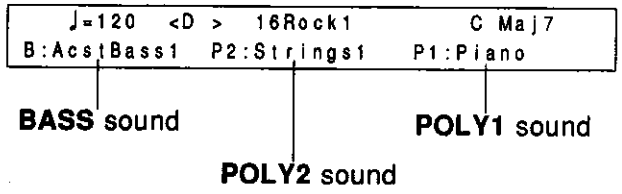
1. Press one of the part buttons in the **CONDUCTOR** (**POLY 1**, **POLY 2** or **BASS**).



- To select a sound for **POLY 2**, press the **POLY 2 R** button to turn it on. The same sound is automatically assigned to **POLY 2 L**.

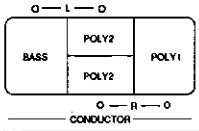
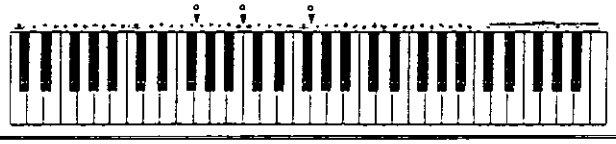
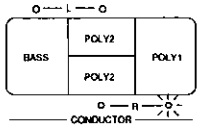
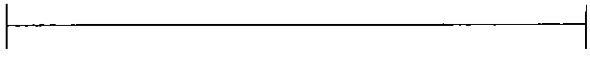
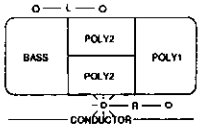
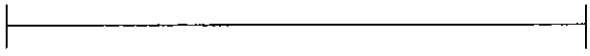
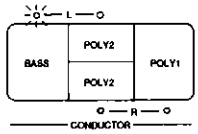
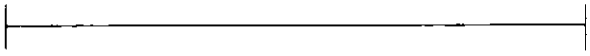
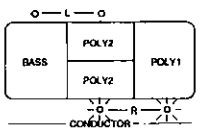
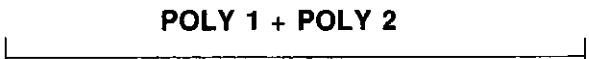
2. Select a sound and its variation.

- Repeat the above two steps for each part.
- Only one **BASS** part note can sound at a time.
- The selected sound for each part is shown on the display.



Assigning a part to the keyboard

There are several possible ways to assign sounds to the keyboard.

CONDUCTOR settings	How sounds are assigned to the keyboard
	
POLY 1 	**POLY 1** 
POLY 2 R 	**POLY 2** 
BASS 	**BASS** 
POLY 1 + POLY 2 	**POLY 1 + POLY 2** 
(Refer to page 26)	

Mixing two sounds

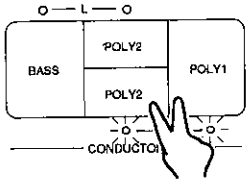
You can play two completely different sounds at the same time, thus obtaining a composite sound having a depth not possible in a single sound.

Mixing sounds

The sounds stored in the **POLY 1** and **POLY 2** parts can be mixed.

1. Assign two different sounds to the **POLY 1** and **POLY 2** parts. (Refer to page 25.)

2. Press the **POLY 1** and **POLY 2 R** buttons of the **CONDUCTOR** simultaneously.



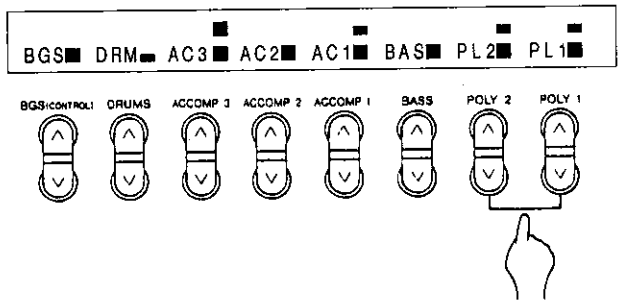
♪ Press any key on the keyboard to hear the mixed sound.

- When sounds are mixed, the number of notes which can sound simultaneously is reduced to 16.

Balance

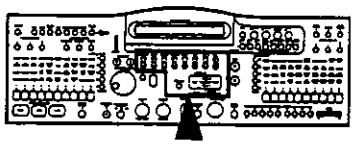
The volume balance for each part can easily be adjusted with the respective balance buttons beneath display.

- When a balance button is pressed, the display changes to show the volume which is set for each part.



- The volume balance for each part is shown in the form of a bar graph. Select one from 14 possible volume levels for each part.
- After a few seconds, the display returns to the normal display.

The split keyboard



Not only can you play one sound on the entire keyboard, you can also "split" the keyboard into right and left sections and assign a different sound to each section. For example, you can play a bass sound with the left hand and play the melody in a different sound with the right hand.

Assigning parts to the split keyboard

Parts can be assigned to a split keyboard in the following four ways.

CONDUCTOR settings	How sounds are assigned to the keyboard
POLY 1 + POLY 2 L	L POLY 2 | R POLY 1 — Split point
POLY 1 + BASS	L BASS | R POLY 1 — Split point
POLY 2 R + BASS	L BASS | R POLY 2 — Split point
POLY 1 + POLY 2 R + BASS	L BASS | R POLY 1 + POLY 2 — Split point

1. Store the desired sounds and their variations for the parts you are going to assign to the keyboard (from **POLY 1**, **POLY 2** and **BASS**).

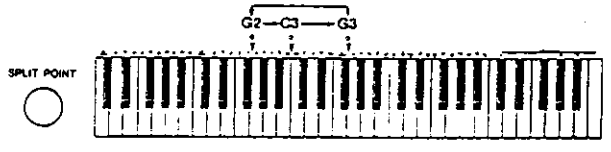
2. Use the **CONDUCTOR** buttons to assign parts to the keyboard. (Refer to the chart above.)

- The keyboard automatically splits into left and right sections. The split point is shown by the lit indicator at G2, C3 or G3.

♪ Try playing the split keyboard to hear the different sound from each section.

Split point

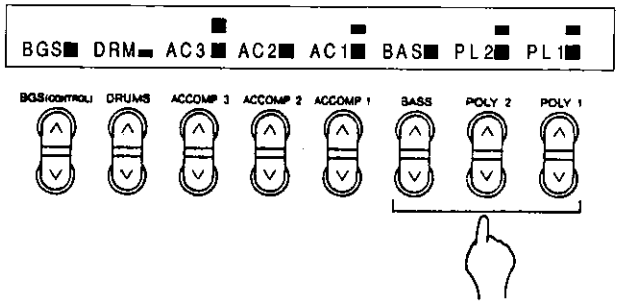
The **SPLIT POINT** button is used to specify the point where the keyboard divides into left and right sections.



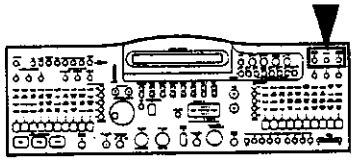
Each time the **SPLIT POINT** button is pressed, the indication moves to the next split point in the following order: G2 → C3 → G3.

Balance

The volume for each part—**POLY 1**, **POLY 2** and **BASS**—is adjusted with the respective balance buttons beneath the display.



Effects

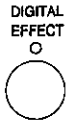


You can achieve even fuller and stirring sounds by adding breadth, swell and reverberation effects.

DIGITAL EFFECT

DIGITAL EFFECT gives the sound a thickness and diffusion.

Press the **DIGITAL EFFECT** button to turn it on, and play the keyboard to hear how it sounds.

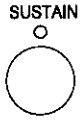


- This effect differs depending on the selected sound.
- The on or off status of the **DIGITAL EFFECT** effect is preset for each sound.

SUSTAIN

SUSTAIN is the gradual fading out of musical tones after the key is released.

Press the **SUSTAIN** button to turn it on.



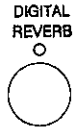
♪ Play the keyboard. When the keys are released, the sound fades out slowly.

- The length of the sustain can be adjusted for each part. (Refer to page 42.)
- The sustain can also be turned on and off with the optional SZ-P1 Foot Switch (sold separately). (Refer to page 96.)

DIGITAL REVERB

DIGITAL REVERB applies a reverberation effect to the sound.

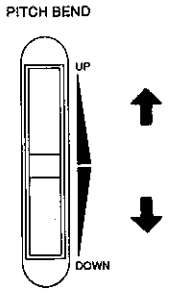
Press the **DIGITAL REVERB** button to turn it on, and play the keyboard to hear how it sounds.



- The on/off status for each part and the type of **DIGITAL REVERB** as well as related fine adjustments can be set. (Refer to page 42.)

PITCH BEND

The pitch of the instrument can be continuously changed with the **PITCH BEND** wheel at the left end of the keyboard. Using this control, you can produce the effect of bending the strings on a guitar.

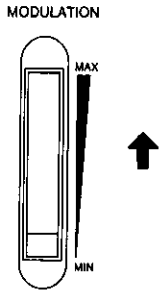


♪ While pressing a key on the keyboard, move the wheel up and down to control the pitch.

- When you release your hand from the wheel, it returns automatically to the center position and the pitch bend effect is turned off.
- The pitch bend effect does not function for the **AUTO PLAY CHORD** accompaniment pattern.
- The amount of pitch bend can be set. (Refer to page 98.)

MODULATION

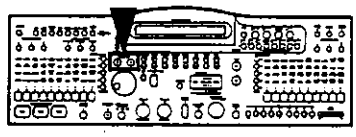
The **MODULATION** wheel is used to apply a vibrato effect to the sound. Vibrato is a slight waver in the pitch which can add a rich quality to the sound.



♪ While pressing a key on the keyboard, move the wheel up to add vibrato.

- When vibrato is not needed, set the **MODULATION** wheel to the **MIN** position.
- This effect differs depending on the selected sound.

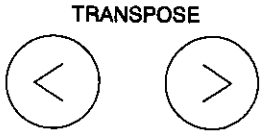
Transpose



The **TRANSPOSE** buttons are used to change the key of the entire instrument in semi-tone steps across an entire octave.

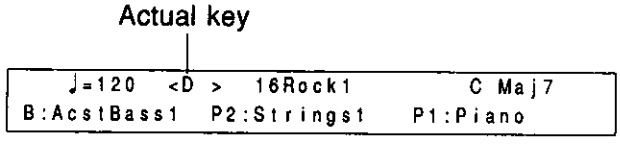
Suppose you learn to play a song—in the key of C, for example—and decide you want to sing it, only to find that it's either too high or too low for your voice. Your choice is to either learn the song all over again in a different key, or to use the **TRANSPOSE** feature.

Adjust the key with the < and > buttons.

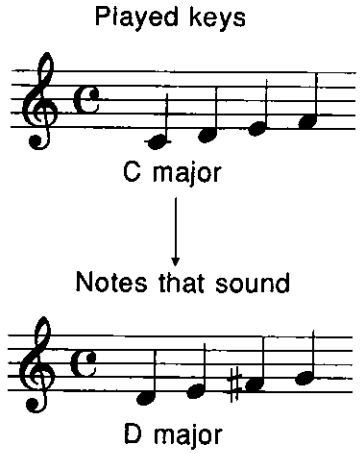


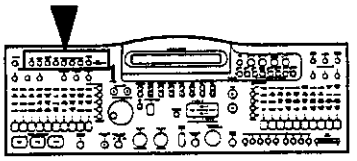
- Each press of the > button changes the key as follows: D♭ → D → E♭ → E → F → F♯. Each press of the < button changes the key as follows: B → B♭ → A → A♭ → G.
- If the two buttons are pressed at the same time, the key returns to C.

- When the **TRANSPOSE** function is active, pressing the C key will sound the note shown on the display.



<Example: transposed to D>

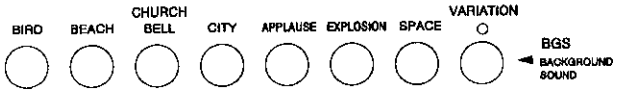




Background Sound (BGS)

Seven different preset background sounds such as the chirping of birds and the sound of waves on the beach are available. Use the background sounds to give your music that special atmosphere.

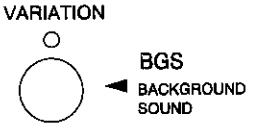
♪ Press a **BACKGROUND SOUND** button and immediately hear the special sound.



- The background sounds can be mixed when two buttons are pressed at the same time.

VARIATION

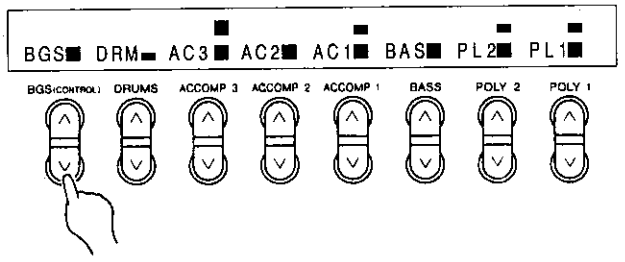
If the **VARIATION** button is pressed while a background sound is playing, a variation of the selected background sound will be produced.



- The **VARIATION** indicator lights. However, if two **BGS** buttons are on at the same time, the indicator does not light.

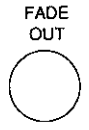
Volume

The volume of the background sound is adjusted with the **BGS** balance buttons directly below the display.



To turn off the BACKGROUND SOUND

To turn off the background sound, press the **FADE OUT** button (located beneath the **BGS** balance button).

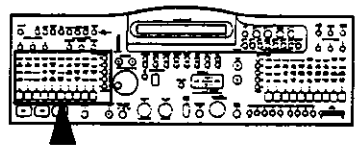


♪ The background sound dies out slowly.

- Press the **FADE OUT** button twice to turn off the background sound immediately.

Part II Playing the rhythm

The rhythm section enhances the capabilities of your keyboard with features such as automatic performance of the preset rhythm patterns and accompaniment patterns.



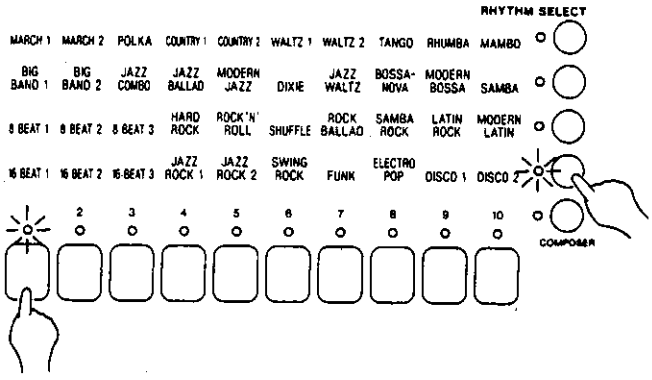
Rhythm Select

The rhythm section provides automatic performance of rhythm patterns using realistic percussion instrument sounds.

Select a rhythm

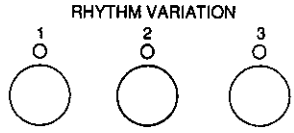
1. Press one button in the vertical row and one button in the horizontal row of the **RHYTHM SELECT** matrix to select the desired rhythm pattern.

Example: Select the **16 BEAT 1** rhythm pattern

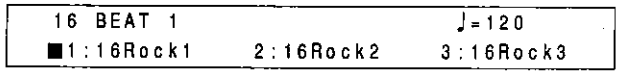

RHYTHM SELECT
MARCH 1 MARCH 2 POLKA COUNTRY 1 COUNTRY 2 WALTZ 1 WALTZ 2 TANGO RHUMBA MAMBO
BIG BAND 1 BIG BAND 2 JAZZ COMBO JAZZ BALLAD MODERN JAZZ DIXIE JAZZ WALTZ BOSSA-NOVA MODERN BOSSA SAMBA
8 BEAT 1 8 BEAT 2 8 BEAT 3 HARD ROCK ROCK'N' ROLL SHUFFLE ROCK BALLAD SAMBA ROCK LATIN ROCK MODERN LATIN
16 BEAT 1 16 BEAT 2 16 BEAT 3 JAZZ ROCK 1 JAZZ ROCK 2 SWING ROCK FUNK ELECTRO POP DISCO 1 DISCO 2
2 3 4 5 6 7 8 9 10
COMPOSER

- The indicators of the pressed buttons light.
- The bottommost horizontal row (**1~10**) is reserved for rhythm patterns you create and store using the **COMPOSER** feature. (Refer to page 56.)

2. Press **RHYTHM VARIATION** button **1**, **2** or **3** to select the desired variation.



- When one of the **RHYTHM VARIATION** buttons is pressed, the display changes to show the names of the available variations. A ■ mark appears to the left of the selected variation.



- After a few seconds, the display returns to the normal display.
- A list of rhythm pattern variations can be found in the separate "Sound and Rhythm Guide" provided.
- The selected variation is memorized for each rhythm pattern independently. When you select that rhythm pattern again, the same variation will still be in effect.

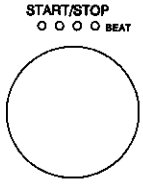
Start the rhythm

There are two ways to start the rhythm.

■ Immediate rhythm start

1. Select a rhythm.

2. Press the **START/STOP** button to turn it on.



♪ The selected rhythm pattern immediately begins to play.

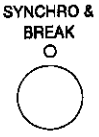
- You can stop the rhythm by pressing the **START/STOP** button again to turn it off.
- The **BEAT** indicators above the **START/STOP** button light to indicate the beat. On the first beat of the measure, the red indicator lights. On the second and succeeding beats of the measure, the green indicators light in order.

■ Synchronized start

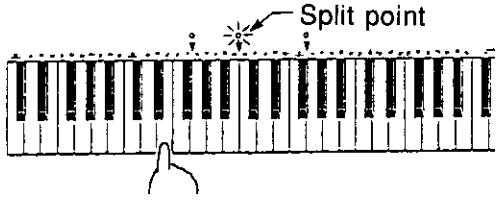
With the synchronized start feature, the rhythm pattern starts when you play a key on the keyboard.

1. Select a rhythm.

2. Press the **SYNCHRO & BREAK** button to turn it on.



3. Play a key to the left of the keyboard split point.

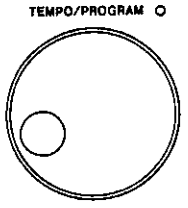


♪ The rhythm pattern begins to play.

- You can use the synchronized start feature even when the keyboard is not divided into left and right sections. The indicator at the split position will be lit while the **SPLIT POINT** button is depressed. To start the rhythm, press a key to the left of the indicated split position. The split point changes each time the **SPLIT POINT** button is pressed.

■ Adjust the tempo

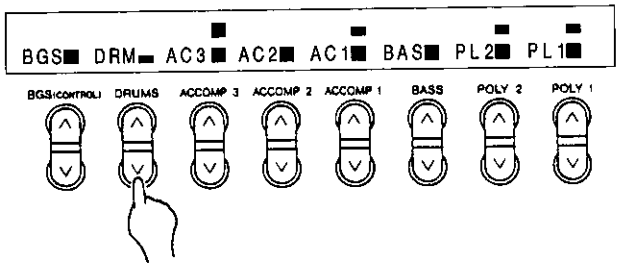
The tempo of the rhythm pattern is adjusted with the **TEMPO/PROGRAM** dial.



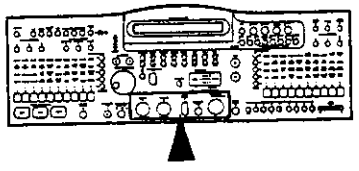
- The tempo is shown on the display as a numerical value (♩ = 40~300).
- When the **TEMPO/PROGRAM** indicator is lit, the **TEMPO/PROGRAM** dial cannot be used to adjust the tempo. (Refer to page 23.)

■ Adjust the volume

The volume of the drums can be adjusted with the **DRUMS** balance buttons directly below the display.



Playing the rhythm

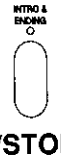


Intro, fill-in and ending patterns fitting each different rhythm pattern are permanently recorded in your Keyboard, thus allowing a versatile rhythm performance.

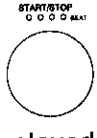
Intro

Begin the rhythm performance with an intro pattern.

1. Press the **INTRO & ENDING** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.

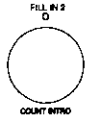


♪ An intro pattern is played, after which the normal rhythm pattern begins.

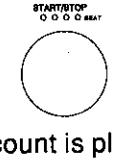
COUNT INTRO

You can begin the rhythm performance with a one-measure count.

1. Press the **COUNT INTRO** button to turn it on.



2. Press the **START/STOP** button to start the rhythm.



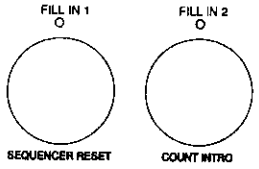
♪ A one-measure count is played, after which the normal rhythm pattern begins.

FILL IN

You can insert a fill-in pattern any time during the rhythm performance. Choose from two different fill-in patterns.

1. Select a rhythm and press the **START/STOP** button.

2. Press the **FILL IN 1** or **FILL IN 2** button.



♪ A fill-in pattern is heard immediately for the remainder of the measure.

- When a **FILL IN** button is pressed on the last beat of the measure, the fill-in pattern continues to the end of the following measure.

Ending

Finish the rhythm performance with an ending pattern.

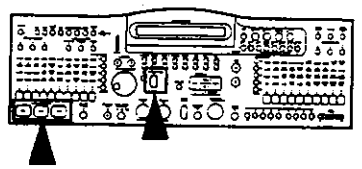
1. Select a rhythm and press the **START/STOP** button.

2. Press the **INTRO & ENDING** button to turn it on.

♪ An ending pattern is produced, and then the rhythm performance stops.

- If you accidentally press the **INTRO & ENDING** button in the middle of the tune, you can press the **FILL IN 1** or **FILL IN 2** button. The ending pattern stops, and a fill-in pattern is produced, after which the normal rhythm performance continues.

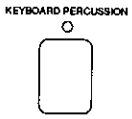
Percussion performance



Various percussion instrument sounds have been permanently recorded in your Keyboard, so you can play a percussion performance by using the keyboard keys and panel buttons.

KEYBOARD PERCUSSION

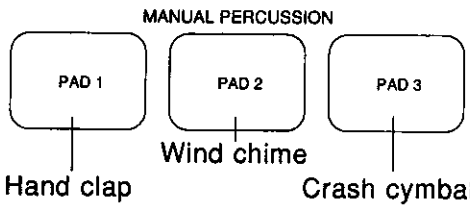
Press the **KEYBOARD PERCUSSION** button to turn your keyboard into a whole band of percussion instruments and other special sounds.



- Percussion instrument sounds are produced by the keyboard keys as indicated by the picture code above each key. (For further explanation, refer to the separate "Sound and Rhythm Guide" provided.)
- You can control the loudness by playing the keys harder or softer.
- When the **KEYBOARD PERCUSSION** button is on, the **SOUND SELECT** sounds are not available.
- The volume of the **KEYBOARD PERCUSSION** can be adjusted with the **DRUMS** balance buttons directly below the display.
- You can change the drums style (drum kit). (Refer to page 43.)

MANUAL PERCUSSION

You can also add percussion sounds to your performance at any time, even when the **KEYBOARD PERCUSSION** button is off, just by tapping the **PAD 1**, **PAD 2** or **PAD 3** button of the **MANUAL PERCUSSION**.

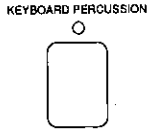


- The volume of the **MANUAL PERCUSSION** can be adjusted with the **DRUMS** balance buttons directly below the display.

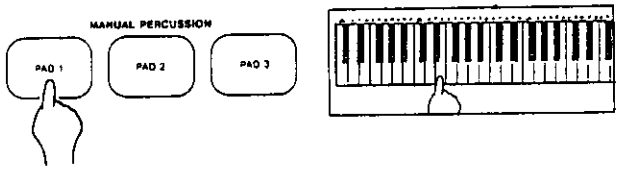
■ Assigning sounds to the PAD buttons

A percussion sound from the **KEYBOARD PERCUSSION** can be assigned to each of the **PAD** buttons.

1. Press the **KEYBOARD PERCUSSION** button to turn it on.

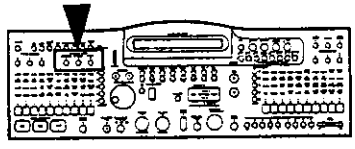


2. While pressing one of the **PAD** buttons, select the desired percussion sound by pressing the appropriate key on the keyboard for about 2 seconds.



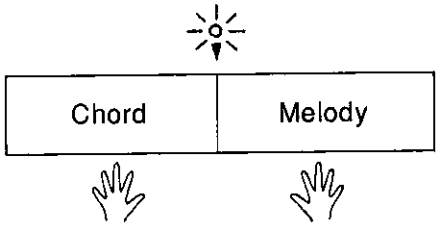
- When you hear the percussion sound of the pressed key, it means the sound has been assigned to the **PAD** button.
- Two more percussion sounds can be assigned to the remaining two **PAD** buttons.
- You can also assign **KEYBOARD PERCUSSION** sounds to the **PAD** buttons by using the display. (Refer to page 43.)

Auto Play Chord



Simply by playing a chord on the keyboard, the **AUTO PLAY CHORD** function automatically plays an accompaniment pattern which matches perfectly the selected rhythm. With a real accompaniment as a background, you can concentrate on playing the melody.

How the AUTO PLAY CHORD works



♪ When an **AUTO PLAY CHORD** mode is selected, an automatic accompaniment which matches the rhythm you have chosen is played in the chord which you specify with your left hand. The melody is played with your right hand.

- The accompaniment pattern of the **AUTO PLAY CHORD** is composed of five parts: **DRUMS**, **BASS**, **ACCOMP 1**, **ACCOMP 2**, and **ACCOMP 3**.

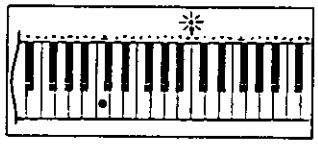
Playing chords

Choose from two ways of playing chords—the one-finger mode and the fingered mode—with the **ONE FINGER** and **FINGERED** buttons.

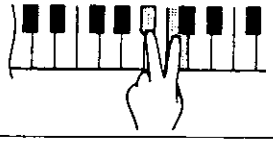
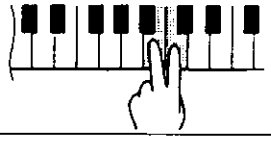
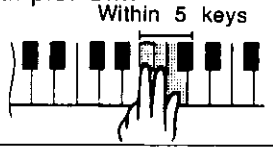
■ ONE FINGER mode

In the **ONE FINGER** mode, a major chord can be played just by pressing the key for its root note.

Example: C chord



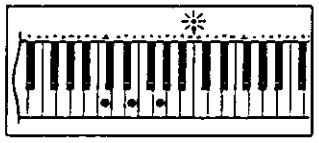
Minor, seventh and minor seventh chords are also easily produced.

minor chord	seventh chord	minor seventh chord
Play the root note plus a black key to the left of it.	Play the root note plus a white key to the left of it.	Play the root note plus a black key and a white key to the left of it. (Within five notes of the chord key.)
Example: Cm 	Example: C7 	Example: Cm7 Within 5 keys 

■ FINGERED mode

In the **FINGERED** mode, you specify the chord by playing all the notes in the chord.

Example: C chord

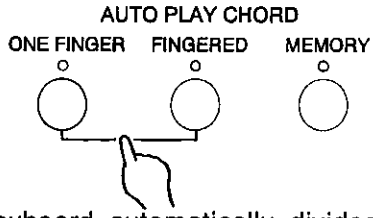


- The Keyboard can distinguish the following played chords for each key (C is given as an example): C, C7, CMaj7, Caug, Cmin, Cmin7, Cdim, Cm7$^{\flat 5}$, CmM7, C7sus4. If a chord other than these is played, the chord in this group which is most closely related is used.

How to use the AUTO PLAY CHORD

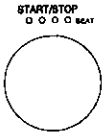
Play an automatic accompaniment by using the **AUTO PLAY CHORD**. First decide if you want to use the **ONE FINGER** or **FINGERED** mode for playing chords.

1. Select a rhythm from the **RHYTHM SELECT**, a melody sound from the **SOUND SELECT** and set the effects as desired.
   - You can use the **CONDUCTOR** to mix **POLY 1** and **POLY 2 R** sounds.
2. Press either the **ONE FINGER** button or the **FINGERED** button to turn it on.



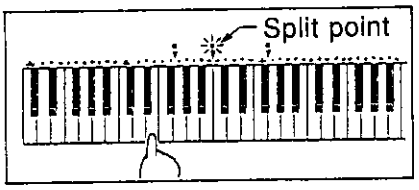
   - The keyboard automatically divides into left and right sections.

3. Press the **START/STOP** button to turn it on.



- Adjust the tempo with the **TEMPO/PROGRAM** dial.

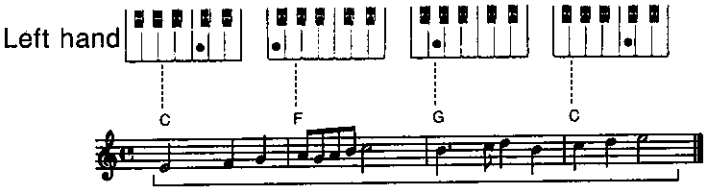
4. Specify the chord on the keyboard section to the left of the split point.



♪ An accompaniment pattern in the specified chord is automatically played. Play the melody with your right hand.

- The name of the specified chord is shown in the upper right part of the display.
- When you use **FILL IN**, **INTRO** or **ENDING**, the automatic accompaniment is also used in these patterns.

Here is an example of how to play a **ONE FINGER** accompaniment.

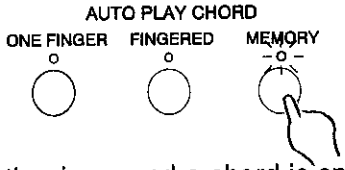


Play the melody with your right hand.

5. To stop the automatic accompaniment, press the **START/STOP** button.

MEMORY button

When the **MEMORY** button is on, even when the keys are released, the chord is memorized and the accompaniment continues to play until you specify another chord.

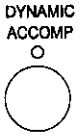


- If the rhythm is on and a chord is specified on the left section of a split keyboard when the **MEMORY** button is on and both the **ONE FINGER** and **FINGERED** buttons are off, the drums pattern and bass pattern only are produced.

DYNAMIC ACCOMP

DYNAMIC ACCOMP is a function which changes each accompaniment pattern of the **AUTO PLAY CHORD**.

1. Press the **DYNAMIC ACCOMP** button to turn it on.



2. Play the keyboard in one of the **AUTO PLAY CHORD** modes.

♪ Depending on the condition of the performance, each **ACCOMP** part changes.

Notes concerning the AUTO PLAY CHORD

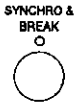
- When an **AUTO PLAY CHORD** mode is on, the number of notes which can be simultaneously produced decreases.
- The sounds which you select for the left section of the keyboard are not produced. However, when you specify chords in the **FINGERED** mode and when **POLY 2 L** in the **CONDUCTOR** is on, the chord you play with your left hand will play in the sound you have selected for **POLY 2**.
- The automatic accompaniment is composed of five parts: **DRUMS**, **BASS**, **ACCOMP 1**, **ACCOMP 2**, and **ACCOMP 3**. You can adjust the volume of each part by using the corresponding balance button directly below the display.

Break function

With the break function, the rhythm starts when the left keyboard is played and stops when the fingers are removed from the keys.

1. Press either the **ONE FINGER** button or the **FINGERED** button to turn it on.
- At this time, the **MEMORY** button should be off.

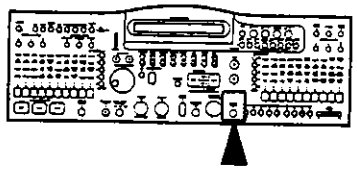
2. Press the **SYNCHRO & BREAK** button to turn it on.



3. Specify a chord with your left hand.
♪ The automatic accompaniment begins to play (synchronized start).

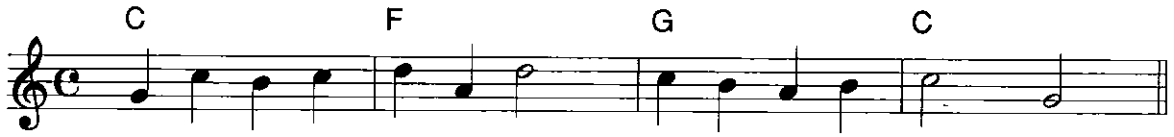
4. Release the left-hand keys.
♪ The automatic accompaniment stops. When the keys are pressed again, the rhythm starts from the first beat.

Techni-chord



The **TECHNI-CHORD** feature expands the sound of your performance so that for each single note played, a chord is formed when the **AUTO PLAY CHORD** function is used.

Set up your keyboard to play the example below.

Sound: **ACCORDION (SOUND VARIATION 1)**
SYNCHRO & BREAK: ON

1. Press the **ONE FINGER** or **FINGERED** button of the **AUTO PLAY CHORD** to turn it on.

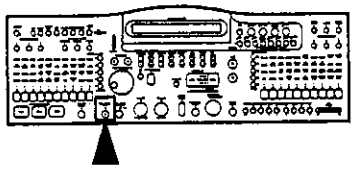
2. Press the **TECHNI-CHORD** button to turn it on.

3. Turn on the **POLY 1** button in the **CONDUCTOR**.

4. Select a sound in the **SOUND SELECT** matrix.

5. On the left part of the keyboard, play the note for the chord.

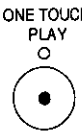
6. On the right part of the keyboard, play the melody. The melody is automatically played in block chords.
- You can choose the desired **TECHNI-CHORD** harmony style. (Refer to page 45.)
- The **TECHNI-CHORD** functions when **POLY 1** is selected for the right part and **POLY 2 L** is selected for the left part in the **CONDUCTOR** even if the **AUTO PLAY CHORD** is off.



One Touch Play

With the **ONE TOUCH PLAY** feature, the sounds and effects, etc. matching the selected rhythm are easily set in seconds and you are ready to play immediately.

1. Select a rhythm pattern with the buttons of the **RHYTHM SELECT** matrix.
   - Do not select a rhythm with the **COMPOSER 1~10** buttons.
2. Press the **ONE TOUCH PLAY** button until the panel settings change.



- The display changes to the following.

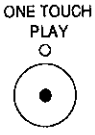
```
ONE TOUCH PLAY
   2 ROUGH 16
```

♪ The **ONE FINGER** or **FINGERED** button and the **SYNCHRO & BREAK** button are automatically turned on. When a key on the left section of the keyboard is pressed, the automatic rhythm begins to play immediately.

Music Style Select

With this feature, all the keyboard settings, including the sounds, effects and rhythm, are set according to the selected music style.

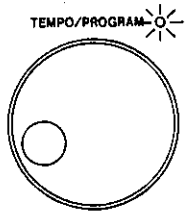
1. Press the **ONE TOUCH PLAY** button momentarily.



- The display changes to the following.

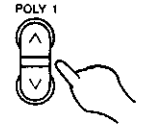
```
MUSIC STYLE SELECT
   2 ROUGH 16                [SET]
```

2. Select the music style with the **TEMPO/PROGRAM** dial.



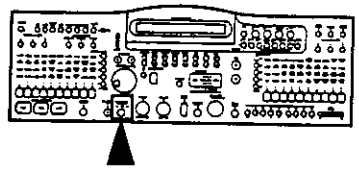
- When the **TEMPO/PROGRAM** dial is turned, the display changes to show the available music styles in order.

3. Press the **POLY 1** balance buttons for [SET] to make the keyboard settings for the selected music style.



♪ The selected performance style is set. The **ONE FINGER** or **FINGERED** button and the **SYNCHRO & BREAK** button are automatically turned on. When a key on the left section of the keyboard is pressed, the automatic rhythm begins to play immediately.

Music Style Arranger

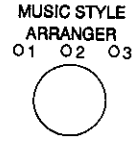


The **MUSIC STYLE ARRANGER** feature changes the sound and rhythm pattern automatically during your performance with the press of a button. Depending on the atmosphere and feeling of the music, you can change the arrangement to produce a varied and more interesting performance.

How to use the MUSIC STYLE ARRANGER

1. Select a rhythm pattern from the **RHYTHM SELECT** matrix.

2. Press the **MUSIC STYLE ARRANGER** button to select the style (**1**~**3**) you want at the beginning of your performance.



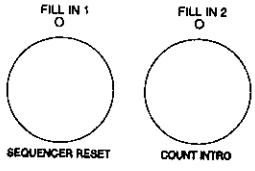
1: Simple pattern
2: Normal pattern
3: Flashy pattern

- Each time the **MUSIC STYLE ARRANGER** button is pressed, the style indication changes as follows: **1** → **2** → **3** → off.

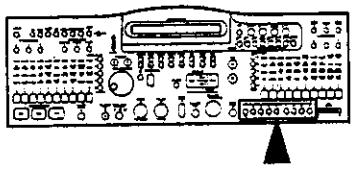
♪ The panel settings change according to the selected rhythm and music style. The **ONE FINGER** or **FINGERED** button and the **SYNCHRO & BREAK** button are automatically turned on. When a key on the left section of the keyboard is pressed, the automatic rhythm begins to play immediately.

How to change the music style during your performance

While you are playing the keyboard with the **MUSIC STYLE ARRANGER** on, press the **FILL IN 1** or **FILL IN 2** button.



- Each time the **FILL IN 1** button is pressed, the **FILL IN 1** pattern plays, and then the music style changes in the **3** → **2** → **1** order. And each time the **FILL IN 2** button is pressed, the **FILL IN 2** pattern plays, and then the style changes in the **1** → **2** → **3** order.
- You can define which panel settings change when the **MUSIC STYLE ARRANGER** is used. (Refer to page 96.)



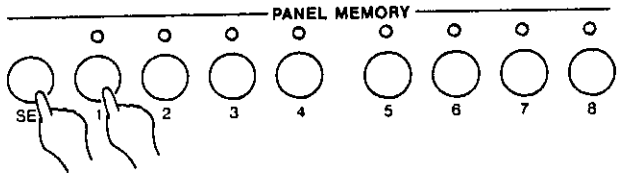
Panel Memory

The **PANEL MEMORY** buttons **1~8** allow you to set up the sounds, effects and rhythm and store them in the memory. Then, simply by pressing just one button, the stored panel settings are recalled instantly.

How to store the panel settings

1. Set up the desired panel settings.

2. With the **SET** button held down, press one of the numbered buttons of the **PANEL MEMORY**.



- To recall the stored settings, just press the corresponding **PANEL MEMORY** button. You can then change the sound settings, etc. manually; however, the memory contents of the **PANEL MEMORY** remain unchanged until you store them again.

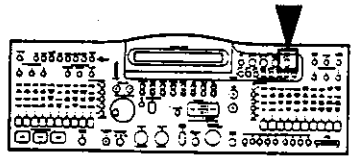
■ **Settings which can be stored are:**
- Sounds, effects and volumes for each part
- **CONDUCTOR** settings
- Keyboard split position
- **TECHNI-CHORD** on/off status
- **AUTO PLAY CHORD** status

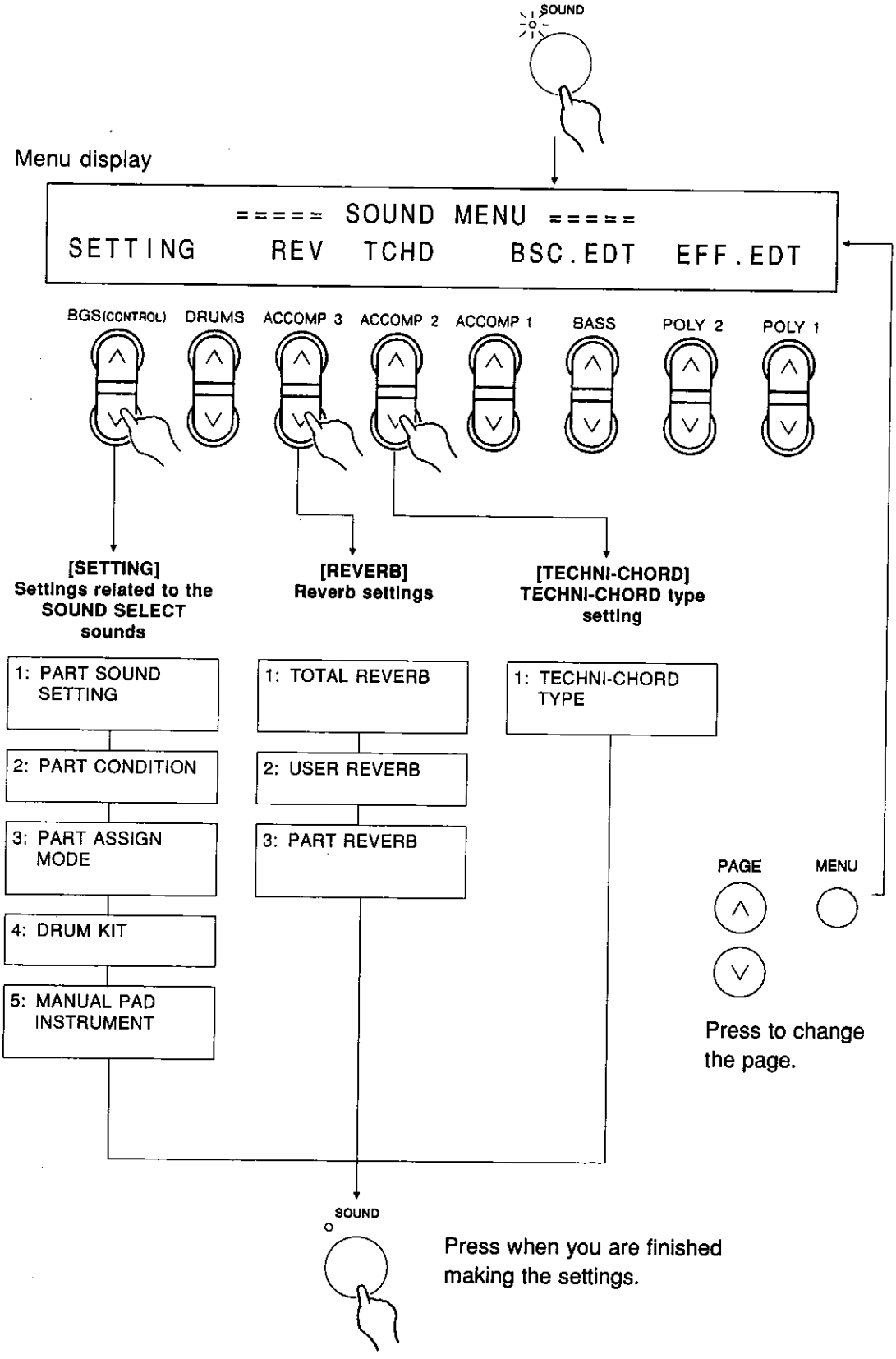
- The range of storable panel settings can be expanded. (Refer to page 95.)

Part III Adjusting the sounds

This mode is used to make fine adjustments to the functions which are related to sound, such as tone, volume and effects. The selection of the sound and the on/off status of the effects can be set beforehand for each part.

Outline of SOUND mode settings





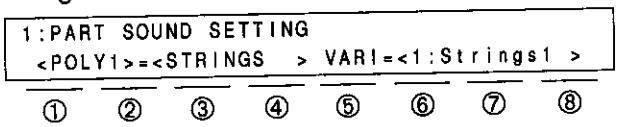
Setting the sounds and effects for each part

The sound, volume and effect settings, etc. for each part can be set by using the display. Including the setting of the **ACCOMP** part sounds, the fine volume adjustment, and reverb and sustain on/off settings can be made. First call up on the display the item you wish to change and then follow the simple procedures to make the settings.

- In many cases, the **TEMPO/PROGRAM** dial can also be used to change the setting on the display. If the green indicator for the **TEMPO/PROGRAM** dial lights when the balance button for an item is pressed, the dial can be used to change the displayed setting for that item.

PART SOUND SETTING (SETTING: PAGE 1)

Assign the desired sound for each part.



1. Select the part for which you wish to assign the sound by using the ① or ② buttons.
- Select from POLY1, POLY2, ACMP1, ACMP2, ACMP3 and BASS.
- The sounds you set in the ACMP1, ACMP2 and ACMP3 parts are used in the **ACCOMP** parts of the **COMPOSER** and **SEQUENCER**. The **ACCOMP** and **BASS** part sounds of the **AUTO PLAY CHORD** cannot be changed.

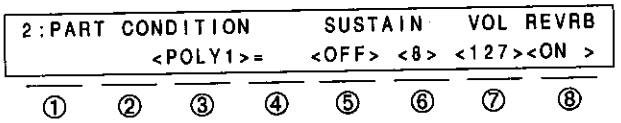
2. Select the desired sound with the ③ or ④ buttons or with the buttons in the **SOUND SELECT** matrix.

3. Select the desired variation with the ⑥, ⑦ or ⑧ buttons or with the **SOUND VARIATION** buttons.
- A list of sound variations can be found in the separate "Sound and Rhythm Guide" provided.

Repeat the above procedure to set the sound for each part.

PART CONDITION (SETTING: PAGE 2)

The length of sustain, sustain on/off setting, fine volume adjustment and reverb on/off setting can be set for each part.



1. Select the part by using the ③ buttons.
- Select from POLY1, POLY2, ACMP1, ACMP2, ACMP3, BASS, DRUMS and BGS.

2. Set the **SUSTAIN** to on or off with the ⑤ buttons or with the **SUSTAIN** button.
- Sustain on/off cannot be set for the DRUMS or BGS part.

3. Set the length of the sustain with the ⑥ buttons.
- Select from 1~8. The higher the number, the longer the sustain.
- Sounds which are naturally sustained, such as **PIANO**, are not affected even when this number is changed. If you wish to change the length of the sustain for a naturally sustained sound, you can do so by using the sound edit function to change the envelope release time and storing as a new sound. (Refer to page 49.)

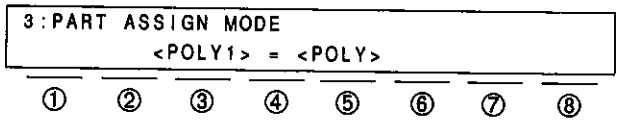
4. Set the volume with the ⑦ buttons.
- Set a value from 0~127.

5. Set the **REVERB** on/off for each part with the ⑧ buttons.
- These **REVERB** on/off settings are automatically duplicated on the PART REVERB display. (Refer to page 45.)

Repeat the above procedure for each part.

PART ASSIGN MODE (SETTING: PAGE 3)

Select the output mode for each part played on the keyboard.



1. Select the part with the ③ buttons.
   - Select from POLY1 and POLY2.
2. Select the mode with the ⑤ buttons.
   - POLY: Polyphonic sound is produced for the part.
   - MONO: The part set to this mode produces monophonic (one-note) sound, with priority given to the highest note played.
   - SOLO: The part set to this mode produces monophonic (one-note) sound with priority given to the last note played.
   - When a part set to SOLO is mixed with the **POLY** part on the **CONDUCTOR**, the SOLO sound is assigned to the highest note played. In this case, when a chord is played, whether or not the SOLO sound shifts from highest note of the chord to next lower note when the higher note is released is determined by various factors, such as which keys are played and the distance between the released key and the next lower key.

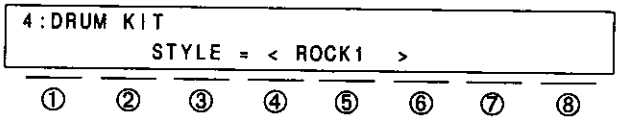
Repeat the above procedure for each part.

Assigning the percussion sounds

The **KEYBOARD PERCUSSION** sounds which fit the musical genre and the percussion instrument sound in each **MANUAL PERCUSSION PAD** button can be modified and set.

DRUM KIT (SETTING: PAGE 4)

Select the sounds in the **KEYBOARD PERCUSSION** which are appropriate for the musical style. Depending on the style, the nuance of the sound changes even when the name of the percussion instrument is the same.



Select the desired genre with the ⑤ buttons.

- Choose from ROCK 1, ROCK 2, ELECTRIC, STANDARD and SYNTH.
- The **MANUAL PERCUSSION** sounds (**PAD** buttons) also change accordingly.

MANUAL PAD INSTRUMENT

(SETTING: PAGE 5)

Assign the desired percussion sound to **PAD 1**, **PAD 2** and **PAD 3** of the **MANUAL PERCUSSION**.

Select the instrument for **PAD 1** with the ① or ② buttons, for **PAD 2** with the ④ or ⑤ buttons, and for **PAD 3** with the ⑦ or ⑧ buttons.

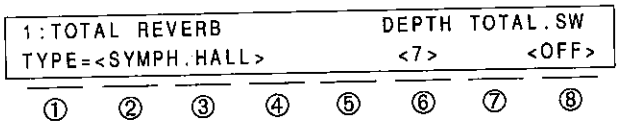
- The **TEMPO/PROGRAM** dial can also be used to select the percussion sound. First, select **PAD 1**, **2** or **3** by pressing a corresponding balance button once, then turn the **TEMPO/PROGRAM** dial to select the percussion sound for that pad.

Reverb settings

The type and depth of reverb can be set. In addition, the four USER REVERB memories let you modify the preset reverbs and store them.

TOTAL REVERB (REV: PAGE 1)

You can set the type and depth of the reverb.



1. Select the type of reverb with the ② or ③ buttons. This is the reverb type that will be in effect when the **DIGITAL REVERB** button is on.
- Select from 12 types of reverb: ROOM, HALL, STAGE, CATHEDRAL, SYMPH. HALL, ECHO 1~3, USER 1~4 (see below).

2. Set the depth of the reverberation effect with the ⑥ buttons.
- Select from levels 1~8. The higher the number, the more pronounced the effect.

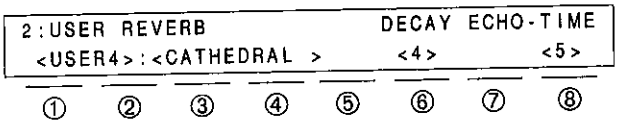
3. Set the **DIGITAL REVERB** on/off for all parts with the ⑧ buttons. When set to ON, you can check the reverb sound by playing the keyboard.

■ Quick setting

If the **DIGITAL REVERB** button is pressed and held down, the display changes to the 1: TOTAL REVERB display, allowing you to make the setting immediately.
- The display returns to the normal performance display a few seconds after you have completed making the setting.

USER REVERB (REV: PAGE 2)

USER REVERB lets you select one of the preset reverb types, modify it and then store it in USER 1~4. To use a modified reverb, select it on PAGE 1 of the REV menu (see above).



1. Select the USER memory with the ① or ② buttons.
- Select from USER 1~4.

2. Select a preset reverb type with the ③ or ④ buttons: ROOM, HALL, STAGE, CATHEDRAL, SYMPH. HALL, ECHO 1~3.

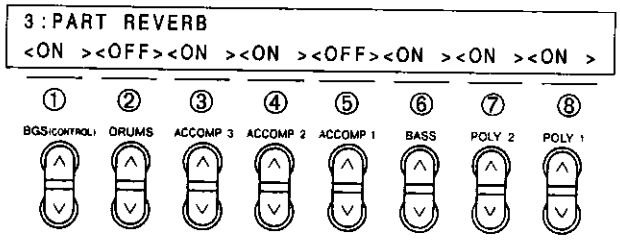
3. Set the reverb decay time with the ⑥ buttons.
- Select from 1~8. The higher the value, the longer the decay time.

4. If CATHEDRAL, ECHO 1, 2 or 3 was selected in step 2, set the echo repeat time with the ⑧ buttons.
- Select from 1~8. The higher the value, the slower the oscillation.
- The **DIGITAL REVERB** turns on automatically during the USER REVERB setting, allowing you to hear and check the reverb sound.

PART REVERB (REV: PAGE 3)

You can set the reverb to on/off for each part. If the reverb for a given part is set to off, the reverb effect does not work for that part even when the **DIGITAL REVERB** button (total reverb) is turned on.

Set the reverb to ON or OFF with the respective balance buttons.



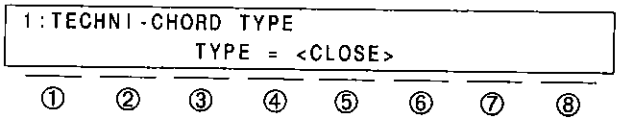
- Press ∧ to select ON or ∨ to select OFF.

Techni-chord settings

The harmony style for the **TECHNI-CHORD** can be set.

TECHNI-CHORD TYPE (TCHD: PAGE 1)

Select the desired harmony style with the ⑤ buttons.



- Select from four styles: CLOSE, OPEN 1, OPEN 2, DUET.

■ Quick setting

If the **TECHNI-CHORD** button is pressed and held down, the display changes to the 1: TECHNI-CHORD TYPE display, allowing you to make the setting immediately.

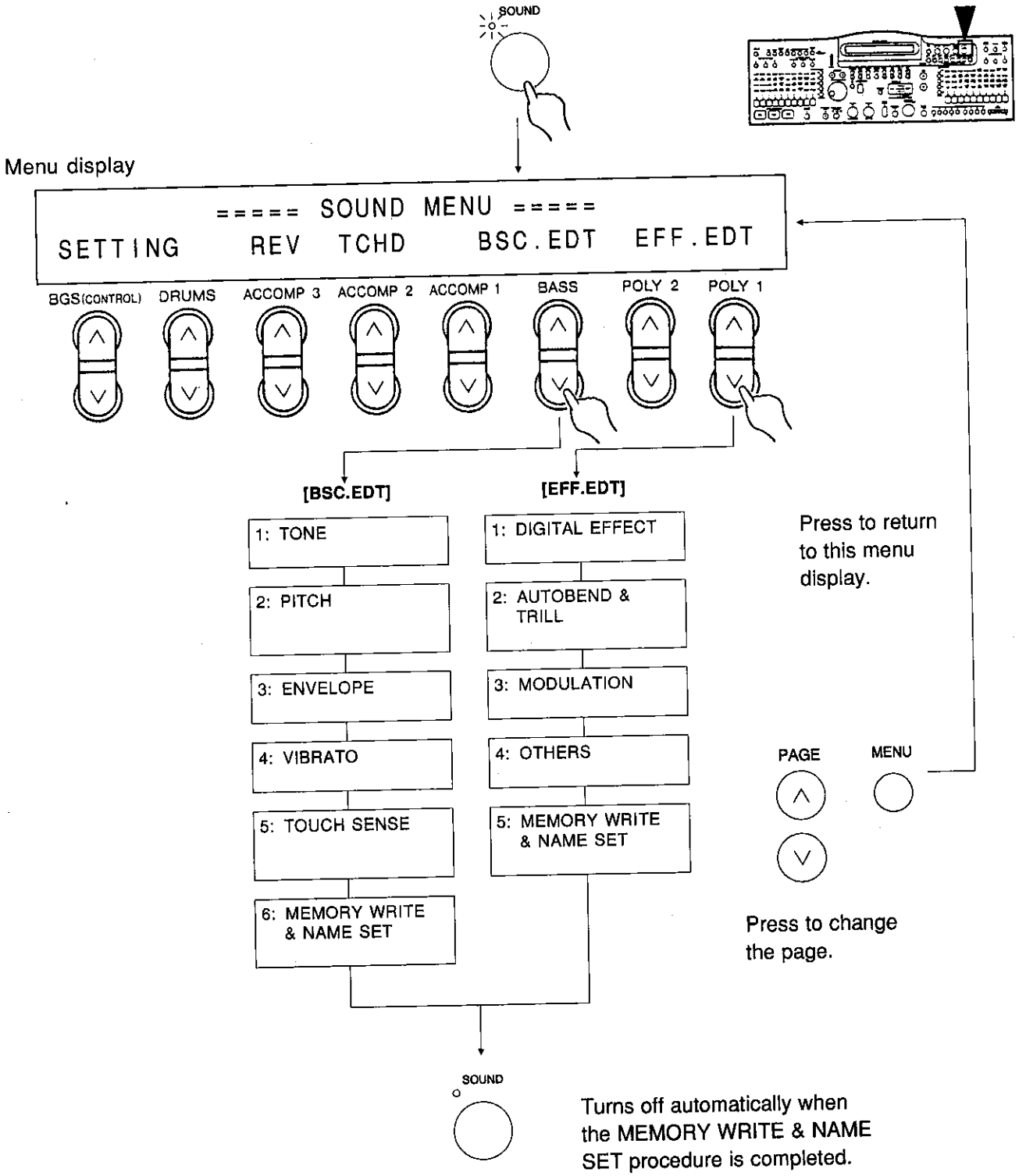
- The display returns to the normal performance display a few seconds after you have completed making the setting.

Part IV Creating sounds

A wide variety of preset sounds is programmed in your Keyboard. However, when a preset sound doesn't exactly match that particular sound you have in mind, you can use the edit feature to change its components and create a new sound.

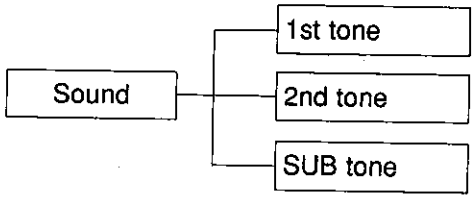
Outline of the sound editing feature

Select BSC.EDT to define the fundamental factors of the sound. Select EFF.EDT to modify the effects.



The composition of sounds

By way of definition, "sounds" are what we call the voices of this Keyboard. A sound may be made up of at most three tones.



The main body of a sound is formed from the combination of the 1st tone and 2nd tone. Changing either of these tones will effect a major change in the sound. The SUB tone is used when necessary to give a particular expression to a sound, for example, the attack sound when a guitar string is picked.

- Note: The SUB tone and part of the 2nd tone may not sound in some cases, depending on the performance status of other parts (such as the rhythm part) in relation to the maximum number of notes which can be simultaneously produced by the Keyboard.

How to edit a sound

Described below is the basic procedure for editing a sound. Follow these steps to edit each parameter as described starting on page 48.

Preparing to edit a sound

1. Select the sound from the **SOUND SELECT** matrix and the **SOUND VARIATION** which is closest to the target sound.

2. Turn on the **SOUND** button.

3. Select BSC.EDT with the ⑥ buttons or EFF.EDT with the ⑧ buttons.

Editing the sound

4. Use the **PAGE** buttons to go to the display page of the items you wish to set, and perform the edit procedure.

- To change the tone or the displayed value, if the **TEMPO/PROGRAM** indicator lights when you press the balance button, you can use the dial to change the setting.

Storing the new sound

5. When you have completed editing the sound, store it in a **SOUND SELECT** memory by using the MEMORY WRITE & NAME SET display (BSC.EDT menu, PAGE 6 or EFF.EDT menu, PAGE 5).

To cancel the editing procedure

If you wish to discontinue editing a sound without storing it, turn off the **SOUND** button to return to the normal performance mode. (You can return to the SOUND MENU display without canceling the editing procedure by pressing the **MENU** button.)

To change the sound while editing

You can also change the selected sound in the middle of the editing procedure.

If a different sound is selected during the editing procedure, the following display appears.

```
2:SOUND CHANGE
            Are you sure?      [NO] [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Press either ⑧ button for [YES] to change to the newly selected sound. The display will then return to the previous editing display. Press either ⑦ button for [NO] to return to the previous editing display without changing the sound.

- If you wish to change to a sound in the **MEMORY** row, be sure to select the sound by first pressing the horizontal-row button and then the **MEMORY** button. If you press the buttons in the reverse order, the display changes to the MEMORY WRITE & NAME SET display. (Refer to page 51.)
- The **CONDUCTOR** settings cannot be changed during the editing procedure.

Editing the sound parameters

A sound is made up of various elements (sound parameters). Select elements you wish to change and modify them to create a new sound. First follow the steps in "Preparing to edit a sound" on the preceding page, and then modify the desired parameters.

TONE (BSC.EDT: PAGE 1)

Modify the tones which make up the selected sound.

```
1:TONE                                  VOL KEYBAL
<1st>:<  1:Piano     > < ON >           90     0
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

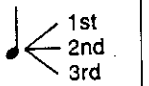
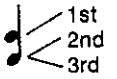
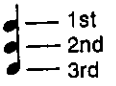
1. Select the tone you wish to modify first by using the ① buttons.
- Select one from 1st, 2nd and SUB.
- For an explanation of tones, please refer to "The composition of sounds" on page 47.

2. Select the kind of tone with the ②, ③ or ④ buttons.
- A list of tones can be found in the separate "Sound and Rhythm Guide" provided.

3. Use the ⑤ and ⑥ buttons to specify whether or not each tone is generated (ON/OFF).

TRIO

If the 1st tone is set to TRIO, the sound changes to the TRIO mode, which gives special effective expression to brass section sounds, for example. (Refer to the diagram below.)

1 key	2 keys	3 keys
		

- For TRIO mode sounds, the tones cannot be turned on and off individually.
- For TRIO mode sounds, the SUB tone is displayed as "3rd".

4. Set the volume of each tone with the ⑦ buttons.
- Specify a volume level from 0~100. The higher the number, the louder the sound.

5. Set the amount of key balance effect with the ⑧ buttons (–50~+50).
- "Key balance" is the relation between the pitch of the note and its volume. When set to a + value, the volume increases as you play higher on the keyboard. When set to a – value, the loudness increases as you play lower on the keyboard. When set to 0, the volume is the same for the whole keyboard.

PITCH (BSC.EDT: PAGE 2)

Specify various elements concerning the pitch of the sound.

2:PITCH	OCTAVE	KEY-SHIFT	DETUNE
	0	<1st>: 0	0
	① ② ③	④ ⑤ ⑥	⑦ ⑧

■ OCTAVE

Set the desired octave shift value (–1~+2) for the sound with the ③ buttons. The value is common to all the tones.

- The octave value for sounds selected for the **BASS** part cannot be changed.
- To raise (or lower) the pitch one octave, set the value to +1 (or –1). To raise the pitch two octaves, set the value to +2.

■ KEY-SHIFT/DETUNE

The pitch can be shifted in semitone increments by as much as 2 octaves for each tone (KEY-SHIFT). The pitch of each tone can be shifted slightly to add fullness to the sound (DETUNE).

1. Select the tone you wish to modify first with the ⑤ buttons.

2. Specify the amount of KEY-SHIFT (–24~+24) with the ⑦ buttons.
   - A value of 1 means a shift of one semitone. To raise (or lower) the pitch one octave, set the value to +12 (or –12). To raise (or lower) the pitch two octaves, set the value to +24 (or –24).

3. Set the DETUNE value (–50~+50) with the ⑧ buttons.
   - A + value sets the tone high in relation to the keyboard tuning; a – value sets it low. The higher the absolute value, the greater the change in pitch.

ENVELOPE (BSC.EDT: PAGE 3)

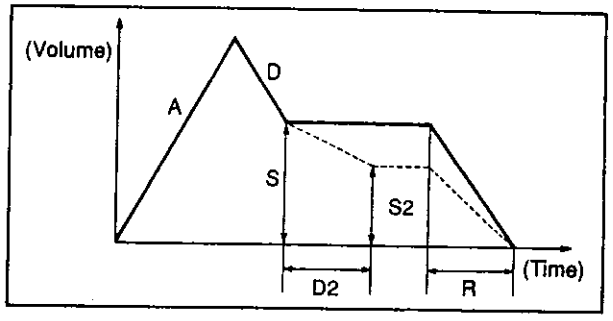
The change in volume over time can be set for each tone.

3:ENVELOPE	A	D	S	R	D2	S2
<1st>:<NRM>	20	10	30	0	<OFF>	<OFF>
	① ②	③	④	⑤	⑥	⑦ ⑧

1. Select the tone you wish to modify with the ① buttons.

2. Select the envelope mode for the tone with the ② buttons.
   - Select NRM (normal) to modify each individual component of the envelope. Select SPC (special) to use the envelope of the currently selected sound.

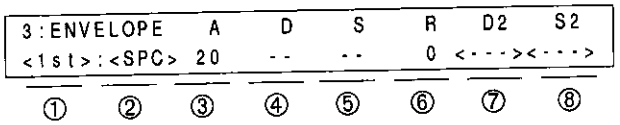
3. Modify the envelope.



NRM mode

- Set the attack time (0~50) with the ③ buttons. Attack is the portion of sound spanning from the beginning of the sound to the point at which it reaches its peak volume. The higher the value, the slower the attack.
- Set the decay time (0~50) with the ④ buttons. Decay is defined as the portion of sound spanning from its peak volume to the point at which it reaches the sustain volume. The higher the value, the longer it takes for the volume to decrease.
- Set the sustain volume (0~50) with the ⑤ buttons. The higher the value, the louder the volume.
- Set the release time (0~50) with the ⑥ buttons. Release is the time elapsed from when the key is released to when the sound is no longer audible. The higher the value, the longer it takes for the sound to die out.
- Set the decay 2 time (OFF, 0~50) with the ⑦ buttons.
- Set the sustain 2 volume (OFF, 0~50) with the ⑧ buttons.

SPC mode



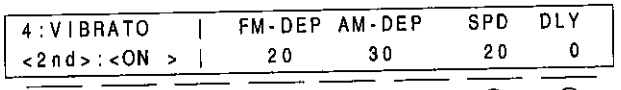
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- Set the attack time (0~50) with the ③ buttons.
- Set the release time (0~50) with the ⑥ buttons.

Note: If the original envelope mode of a tone is SPC, the nuance of the tone may alter just by changing the envelope mode to NRM.

VIBRATO (BSC.EDT: PAGE 4)

Set the vibrato effect for each tone.



① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Select the tone you wish to modify with the ① buttons.

2. Select vibrato ON/OFF for the selected tone with the ② buttons.
- Repeat steps 1 and 2 to set the vibrato on or off for the other tones.

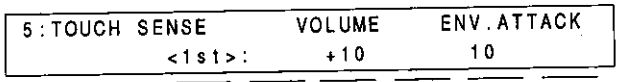
3. Set the frequency change (pitch) with the ④ buttons, and set the amplitude modulation (depth) with the ⑤ or ⑥ buttons.
- Specify a value from 0~30. The higher the number, the greater the modulation.

4. Set the vibrato speed (0~30) with the ⑦ buttons.
- The higher the number, the faster the vibrato speed.

5. Set the delay time (0~30) with the ⑧ buttons.
- Note: Delay time is the time elapsed from when the keyboard key is pressed until the vibrato effect is applied.
- The higher the value, the longer it takes until the vibrato effect is applied.

TOUCH SENSE (BSC.EDT: PAGE 5)

Specify the amount of keyboard touch response (volume change) and the change in the envelope attack for each tone.



① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Select the tone you wish to modify with the ③ buttons.

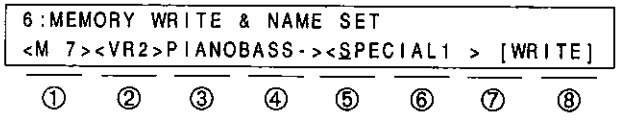
2. Set the degree of volume change (–10~+10) with the ⑤ buttons.
- When set to a + value, the harder the keyboard is played, the louder the sound. When set to a – value, the harder the keyboard is played, the softer the sound. When set to 0, the volume is the same regardless of how hard or softly the keyboard is played (no touch response).
- The higher the absolute value, the greater the change in volume.

3. Set the degree of change in the envelope attack (0~10) with the ⑦ buttons.
- The higher the number, the faster the attack when the keyboard is played hard. This means that you can change the attack sound by playing the keyboard harder or more softly during your performance.

MEMORY WRITE & NAME SET (BSC.EDT: PAGE 6)

Select a memory location (number) (1~10) for your newly created sound, and assign a name to it. There are 10 memory locations and 3 possible variations for each sound, giving you a maximum total of 30 original sounds.

Note that, although the other procedures for creating sounds can be skipped if desired, you must complete the MEMORY WRITE procedure if you do not wish your new sound to be erased.



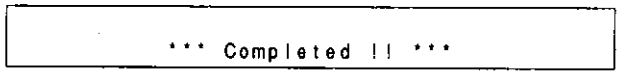
- The same MEMORY WRITE & NAME SET display can also be found on PAGE 5 of the EFF.EDT menu. Therefore, if you wish to edit the effects too, press the **MENU** button, select the EFF.EDT menu with the ⑧ buttons, edit the effects, and then perform the MEMORY WRITE procedure on the PAGE 5 display.

1. Select the memory location (number) in which to store your new sound with the ① buttons.
- Select a number from 1~10.

2. Select a variation for the sound with the ② buttons.
- Select a variation number from 1~3.

3. To assign a name to the sound, move the cursor with the **TRANSPOSE** buttons and select the alphanumeric characters of the name with the ⑤ and ⑥ buttons.
- The cursor is on the first letter position of the name, so select the first letter by using the ⑤ and ⑥ buttons. Move to the next letter position by using the **TRANSPOSE** buttons, and select the second letter with the ⑤ and ⑥ buttons. Repeat this procedure until you have entered all the letters in the name.
- The name may have up to 9 characters.
- The **TEMPO/PROGRAM** dial can also be used to select the characters.

4. When you have completed selecting a memory number and entering the name, press ⑧ (WRITE) to store your new sound in the memory.
- The new sound is stored in the specified memory number. When the sound has been stored, the following display appears.



- If you press this button without specifying a memory number, an error message appears on the display. If this occurs, repeat steps 1 and 2.

■ Quick memory setting

You can skip to the PAGE 6 procedure and specify the memory number quickly by using another method. Press the **MEMORY** button in the **SOUND SELECT** matrix, and press one of the number buttons (**1~10**) in the same matrix. The display immediately changes to the PAGE 6 display.

How to recall your new sound

Your newly created sound is recalled in exactly the same way that other sounds are chosen from the **SOUND SELECT** matrix.

1. Press the **MEMORY** button in the **SOUND SELECT** matrix.
2. Press the number button (**1~10** in the **SOUND SELECT** matrix) in which the memory is stored.
3. Select the sound variation number for the sound by using the **SOUND VARIATION** buttons.

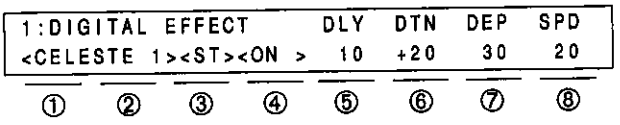
Editing the effects for your new sound

Continue editing the sound by setting the various effects which maximize the sound. You can change the type of effect and the way in which the effect is applied to each sound as desired.

DIGITAL EFFECT (EFF.EDT: PAGE 1)

Select the type of effect which is applied to your new sound when the **DIGITAL EFFECT** button is on, and modify the effect.

- This setting is not available for TRIO mode sounds. (Refer to page 48.)



1. Select the type of effect by using the ① or ② buttons.
- Select from CELESTE1, CELESTE2, CHORUS, ENSEMBLE, TREMOLO, ORG. TRMLO, 2nd DELAY, REPEAT and SOLO EFF.
- If ORG. TRMLO is selected, a slow tremolo is active even when the **DIGITAL EFFECT** button is off. In this case, the **DIGITAL EFFECT** button is used to switch between a slow tremolo (off) and a fast tremolo (on).

2. Select monaural (MN) or stereo (ST) output of the effect with the ③ buttons.
- If SOLO EFF is selected, this setting cannot be made.

3. Set the effect to ON or OFF with the ④ buttons or the **DIGITAL EFFECT** button.
- When set to ON, the **DIGITAL EFFECT** button turns on automatically when the sound is selected.

4. Modify the effect with the ⑤~⑧ buttons.

Type of effect	Parameters			
	⑤	⑥	⑦	⑧
CELESTE 1	DLY	DTN	DEP	SPD
CELESTE 2	DLY	DTN	DEP	SPD
CHORUS	DLY	DTN	DEP	SPD
ENSEMBLE	DEP1	SPD1	DEP2	SPD2
TREMOLO	WAVE	DEP	SPD	BAL
ORG. TRMLO	DEP1	SPD1	DEP2	SPD2
2nd DELAY	DLY	DTN	KEY	BAL
REPEAT	SPD	DCY	SUS	RLS
SOLO EFF		DIST		DEP

- DLY (DELAY):
  Specify the delay time between the start of the 1st tone and the start of the 2nd tone. The higher the number, the longer the delay.
- DTN (DETUNE):
  Fine-tune the pitch of the effect.
- DEP (DEPTH):
  Specify the depth of the effect. The higher the value, the more pronounced the effect.
- SPD (SPEED):
  Specify the speed of the effect. The higher the value, the faster the speed.
- WAVE:
  Specify the type of waving for the effect. Select one from SIN, TRI, SQR and SAW.
- BAL (BALANCE):
  Set the volume of the 2nd tone.
- KEY (KEY SHIFT):
  Fine tune the pitch of the 2nd tone.
- DCY/SUS/RLS (DECAY/SUSTAIN/RELEASE):
  Set the parameters for the REPEAT effect's envelope.
- DIST (DISTORTION):
  Select the type of distortion from ON, OFF and TOUCH. (When TOUCH is selected, the distortion effect is applied only when the keys are played hard.)

AUTO BEND & TRILL (EFF.EDT: PAGE 2)

The AUTO BEND & TRILL causes a change in pitch during the attack period. Select the desired pattern and modify the effect.

```
2:AUTOBEND&TRILL              DEP  SPD MODE
<BEND > <DELY-UP> <TOUCH> +30   30 <ALL>
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Select the desired pattern with the ① buttons.
   BEND: The pitch change is continuous.
   TRILL: The pitch changes in steps.
2. Select the type of pitch change with the ③ buttons.
   BEND types: UP, UP-DOWN, UP-DROP and DELY-UP.
   TRILL types: DOWN-UP, UP-DOWN, MELODY and 5-UP.

- A list of PITCH EFFECT patterns can be found in the separate "Sound and Rhythm Guide" provided.

3. Select the way in which the effect is applied with the ⑤ buttons.
   OFF: The pitch effect is not applied.
   ON: The pitch effect is always applied.
   TOUCH: The pitch effect is applied according to how hard the keyboard is played.

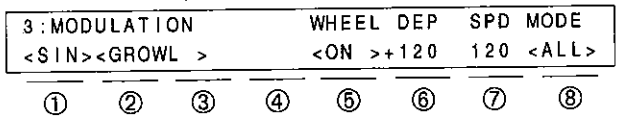
4. Specify the amount of pitch effect (–30~+30) with the ⑥ buttons.
- When set to a + value, the pitch changes from a higher pitch (effect pitch) down to the played pitch (normal pitch) during the attack period. When set to a – value, the pitch changes from a lower pitch up to the normal pitch during the attack period. When set to 0, there is no change in pitch during the attack period.
- The higher the absolute value, the greater the degree of pitch change.

5. Specify the time it takes for the effect pitch (see step 4 above) to become the normal pitch with the ⑦ buttons.
- Select from 0~30. The higher the number, the faster the pitch changes.

6. Select the mode with the ⑧ buttons.
   1st: The effect is applied only to the 1st tone.
   2nd: The effect is applied only to the 2nd tone.
   ALL: The effect is applied to all the tones.
   INV: The effect applied to the 2nd tone is inverted.

MODULATION (EFF.EDT: PAGE 3)

Modify the vibrato effect which is applied when you use the **MODULATION** wheel.



1. Select the vibrato pattern with the ① buttons.
   SIN: Sine wave
   TRI: Triangle wave
   SQR: Square wave
   SAW: Saw tooth wave

2. Select the type of vibrato with the ② buttons.
   NORMAL: Standard vibrato.
   GROWL: A vibrato which produces an uneven attack.

3. Select **MODULATION** wheel ON/OFF with the ⑤ buttons.
   ON: When the **MODULATION** wheel is turned, the vibrato builds gradually. The vibrato depth is determined by the position of the **MODULATION** wheel.
   OFF: The vibrato depth is preset to a fixed level and is unaffected by the **MODULATION** wheel.

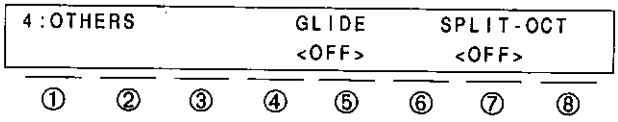
4. Set the depth of the vibrato (–127~+127) with the ⑥ buttons.
- The higher the value, the greater the change in pitch.

5. Specify the vibrato speed (0~127) with the ⑦ buttons.
- The higher the value, the faster the vibrato speed.
- For GROWL vibrato, a setting above 100 is effective.

6. Select the mode with the ⑧ buttons.
   1st: The effect is applied only to the 1st tone.
   2nd: The effect is applied only to the 2nd tone.
   ALL: The effect is applied to all the tones.
   INV: The effect applied to the 2nd tone is inverted.

OTHERS (EFF.EDT: PAGE 4)

Turn the glide effect and split-octave effect on or off.

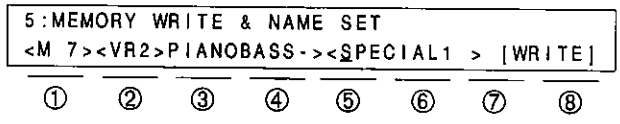


1. Turn the glide effect on/off with the ⑤ buttons.
- The glide effect is applied by operating a **PAD** button or the Foot Switch (separately sold option) to which the GLIDE function has been assigned. (Refer to page 96.)
- When the glide effect is set to on, the sound starts from a semitone below the played pitch and glides up to the normal pitch.

2. Turn the split-octave effect on/off with the ⑦ buttons.
- When this sound is assigned to the right section of a split keyboard, its pitch is lowered by one octave.

MEMORY WRITE & NAME SET (EFF.EDT: PAGE 5)

When you have completed editing the effects for your original sound, specify the memory location, and assign a name to it. The procedure is the same as the 6: MEMORY WRITE & NAME SET procedure of the BSC. EDT menu. (Refer to page 51.)

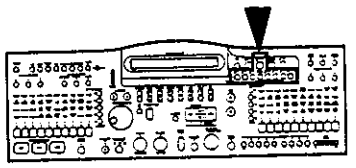


- Recall your newly created sound as you would choose any other sound from the **SOUND SELECT** matrix.

Part V Composer

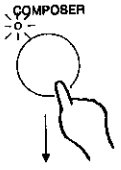
With the **COMPOSER** feature, you create and store up to 10 original rhythm patterns just like the preprogrammed repeating patterns in the **RHYTHM SELECT** matrix.

Your rhythm pattern is made up of five parts—**DRUMS**, **BASS**, **ACCOMP 1**, **ACCOMP 2** and **ACCOMP 3**—and can have up to eight measures. You can also change parts of an existing rhythm pattern (including **AUTO PLAY CHORD** patterns) to make a new pattern.

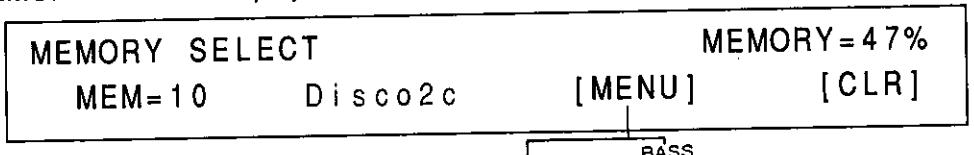


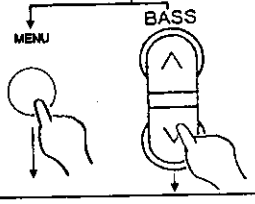
Outline of the COMPOSER

You can use either or both of the two methods of storing your pattern. Realtime recording allows you to store your pattern exactly as you play it on the keyboard, and step recording lets you store the notes one by one, just as you might write a music score.

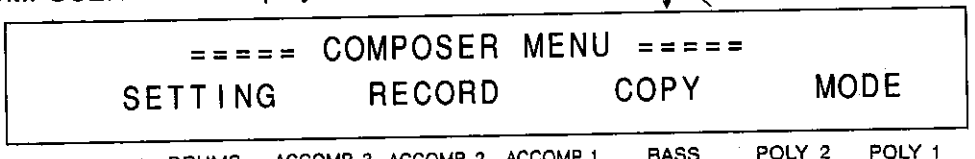


MEMORY SELECT display

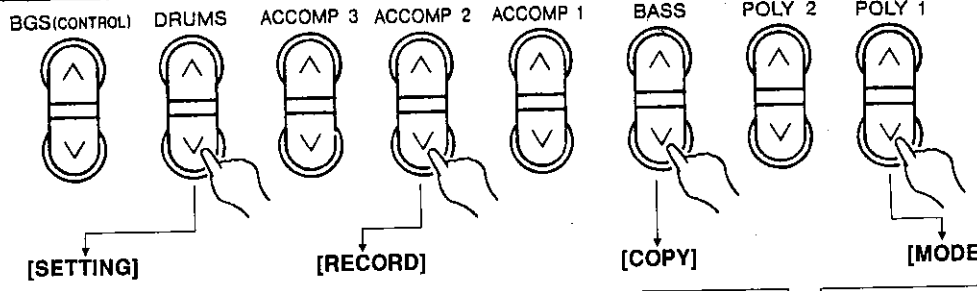


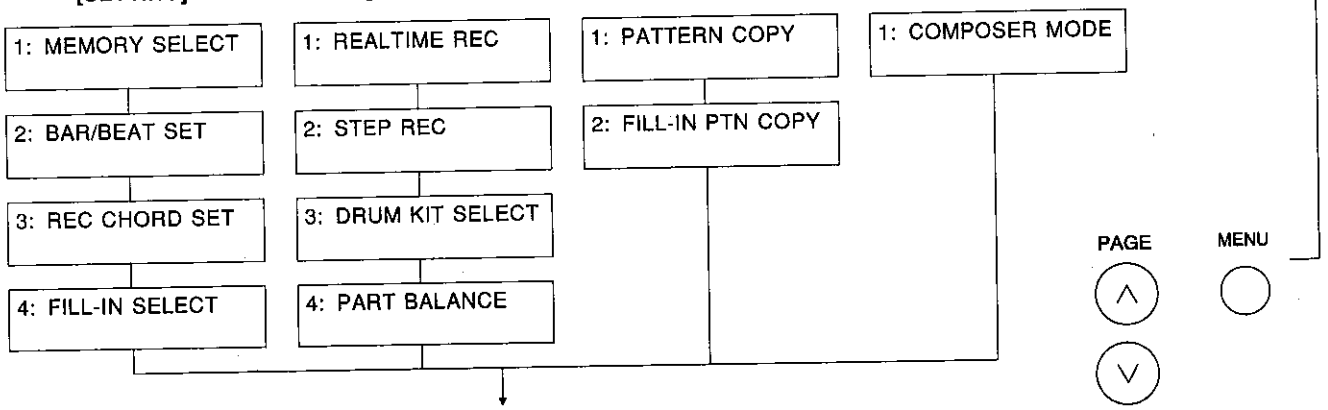


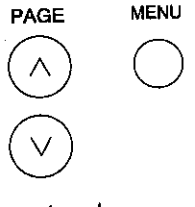
COMPOSER MENU display



Press to return to this menu display.







Press to change the page.

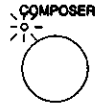
Press when you have finished creating the rhythm pattern.

Preparing to create a new rhythm pattern

In the first step, you establish the most basic information about the new pattern—its memory number, name, the number of measures and the time signature.

Memory number and pattern name

1. Press the **COMPOSER** button to turn it on.



- The display changes to the MEMORY SELECT display similar to the one shown here.

```
MEMORY SELECT                    MEMORY=47%
 MEM=10      Disco2c      [MENU]      [CLR]
  ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

Assigning the memory number

2. Select the memory location (number) for your rhythm pattern by using the ② buttons.
- You can select a number from 1 to 10.
- You can also use the buttons numbered **1~10** in the **RHYTHM SELECT** matrix.
- The name of the rhythm which is currently stored in the indicated memory location is shown at ③ and ④.
- You can use one rhythm pattern to create a new pattern by using the pattern-copy function. (Refer to page 63.)

Memory clear

3. To erase any previously stored pattern in the selected memory location, press either ⑧ button.
- The MEMORY CLEAR display appears.

```
MEMORY CLEAR                     SURE ?
MEM=10                          [NO] [YES]
  ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

Press either ⑧ button for [YES] to clear the memory number. Press either ⑦ button for [NO] to cancel the MEMORY CLEAR function.

Assigning a name to the pattern

4. Press either of the ③ or ④ buttons.
- A cursor appears at the position of the display where you can write the name.

5. Use the **TRANSPOSE** buttons to move the cursor and the ③ and ④ buttons or the **TEMPO/PROGRAM** dial to select the characters in the name.
- The pattern name may consist of up to seven alphanumeric characters.

6. When you have finished selecting the memory number and assigning a name, press either ⑥ button for [MENU].
- The display changes to the COMPOSER MENU display.

■ Quick setting

If you press one of the **COMPOSER PART** buttons instead of a ⑥ button, the display changes directly to the realtime recording display (refer to page 59), and you can begin the recording procedure immediately.

Number of measures and time signature (SETTING: PAGE 2)

To create a completely new pattern, specify the number of measures in the rhythm pattern and its time signature.

1. Press either ② button to select [SETTING] from the COMPOSER MENU display.

```
===== COMPOSER MENU =====
 SETTING    RECORD    COPY    MODE
  ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

- The display changes to the MEMORY SELECT display.

2. Select the memory number, perform the MEMORY CLEAR procedure, and assign a name to the pattern (SETTING: PAGE 1).
- It is not necessary to repeat this step if it has already been completed.
- When the MEMORY CLEAR procedure is performed, the number of measures is automatically set to BAR=2 and the time signature to BEAT=4/4.

3. Use the **PAGE** buttons to go to the PAGE 2 display.

```
2:BAR/BEAT SET              (EN)     MEM=10
        BAR=2    BEAT=4/4
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Note: A (DIS) at ⑥ means that the data is already stored in the memory, and an error message will appear if you attempt to change a setting. If you wish to change the time signature and/or measure data, you must first follow the procedure to clear the memory with the MEMORY SELECT display.

```
Change impossible !!
*** Please clear entire pattern ***
```

4. Specify the number of measures in the rhythm pattern (1~8) with the ③ buttons.

5. Specify the time signature with the ⑤ buttons.
- Select a time signature from 1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4.

Setting the chord for the pattern (SETTING: PAGE 3)

For correct chord progressions during playback, the pattern is stored as a C scale performance. To store a performance in a different scale, follow the procedure below.

```
3:REC CHORD SET      BASS  ACMP     MEM=10
  KEY=<C ><MAJ>     <NORM>< 7th>
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Select the root note of the chords you wish to use when the pattern is played back with the ② buttons.

2. Select major <MAJ> or minor <MIN> with the ③ buttons.

3. Select the type of phrase progression for the **BASS** part with the ⑤ buttons and for the **ACCOMP** parts with the ⑥ buttons.
   NORM: Normal phrase progression.
   7th: The phrase progression includes 7th notes.

Select the fill-in pattern (SETTING: PAGE 4)

Select the fill-in, intro and ending patterns which are produced during playback of your new rhythm pattern when a **FILL IN** button or the **INTRO & ENDING** button is pressed.

```
4:FILL-IN SELECT          (4/4)    MEM=10
    <16BEAT1> <16Rock1>                [SET]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Use the ② or ③ buttons to select the rhythm name, and use the ④ or ⑤ buttons to select the variation name.
- You can also use the buttons in the **RHYTHM SELECT** matrix and the **RHYTHM VARIATION** buttons to make your selection.
- The time signature of the selected rhythm is shown at ⑥.

2. Press either ⑧ [SET] button.
- When the selected pattern has been stored, the display changes to the following display.

```
*** Fill-in select OK !! ***
```

- However, if you have selected a rhythm whose time signature is different from that of the set rhythm (see SETTING menu, PAGE 2), the following error display appears. You must select a rhythm whose time signature is the same as that of the set rhythm.

```
Error !!
*** Time signature mismatch ***
```

Creating and storing a rhythm pattern

When you store your pattern in the realtime recording mode, each part of the rhythm pattern is stored exactly as you perform it on the keyboard.

Realtime recording (RECORD: PAGE 1)

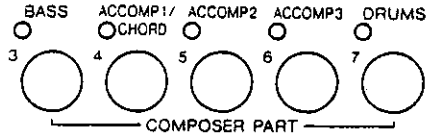
1. Press the **MENU** button to return to the COMPOSER MENU display.

```
===== COMPOSER MENU =====
  SETTING    RECORD    COPY    MODE
    ①  ②  ③  ④  ⑤  ⑥  ⑦  ⑧
```

2. Press a ④ button to select [RECORD].
- The display changes to the REALTIME REC display.

```
1:REALTIME REC   ♩=120      MEAS=1 MEM=10
Q=♪3 [CLR]   ERASE:[ALL][INST] SOLO<OFF>
    ①  ②  ③  ④  ⑤  ⑥  ⑦  ⑧
```

3. Select the part of the rhythm pattern you wish to record first by pressing one of the **COMPOSER PART** buttons.



- You can select **DRUMS**, **ACCOMP 1**, **ACCOMP 2**, **ACCOMP 3** or **BASS**. The indicator of the selected part flashes.
- If an **ACCOMP** part or the **BASS** part is specified, select the sounds and effects, etc. for the specified part.

4. Press either ② [CLR] button to erase all the note data for the specified part. (This step is not necessary if you performed the MEMORY CLEAR procedure.)

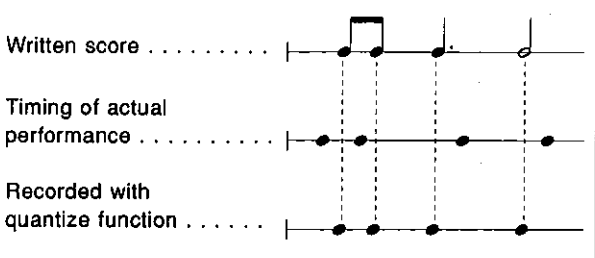
5. Set the desired quantize level with the ① buttons. (Refer to "About the quantize function," below.)
- Select from ♪3, ♪, ♪3, ♪, ♪3, ♪, ♩, and OFF. (A 3 designates a triplet-type rhythm.)

6. Press the **START/STOP** button and play the part.
- The metronome keeps time. Adjust the metronome speed with the **TEMPO/PROGRAM** dial. The tempo is shown on the display as "♩=".
- The part you are recording and the parts which have already been recorded are repeatedly played back. To correct the stored performance, refer to "Editing the stored performance" on page 60.
- The stored measures are repeatedly played back, during which time any newly played notes are added to those already recorded. The measure number is shown as "MEAS=" at ⑦.
- Record the performance in C major for correct chord progressions during playback. To record the performance in a different scale, follow the REC CHORD SET procedure (SETTING menu, PAGE 3) before beginning the recording. (Refer to page 58.)
- Play the **DRUMS** part with the **KEYBOARD PERCUSSION** keys.
- **PITCH BEND** and **MODULATION** effects are also recorded (except for the **DRUMS** part).
- If you press an ⑧ button to set the SOLO to ON, only the part which is currently being recorded is played back while you are recording.

About the quantize function

When you play the keyboard, your timing may not be exact, and that is the way it will be recorded and played back. However, when you record with the quantize function on, any unevenness in the timing of your performance is smoothed out.

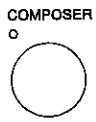
For example, if you record the following music with the quantize level set to Q=♪:



- Maximum number of notes which can sound simultaneously

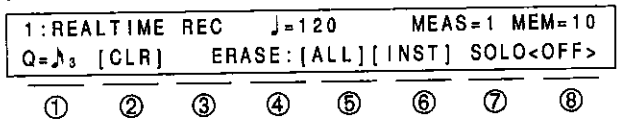
ACCOMP 1	4 notes
ACCOMP 2	4 notes
ACCOMP 3	4 notes
BASS	1 note
DRUMS	6 notes

7. Repeat steps 3~6 to record the other parts of the pattern.
8. When you have finished recording all the parts, press the **COMPOSER** button to turn it off.



Editing the stored performance

If you make a mistake in your performance while you are recording, you can erase it.



[ALL]
The performance recorded in the selected part is erased for as long as either ⑤ button is pressed. You can then perform the part correctly.

[INST]
If the **DRUMS** part is specified, the **DRUMS** part is cleared instrument by instrument. Hold down either ⑥ button and specify the instrument sound to be deleted by pressing the corresponding **KEYBOARD PERCUSSION** key on the keyboard, after which that instrument only will be erased for as long as the ⑥ button is kept pressed.

DRUMS instruments (RECORD: PAGE 3)

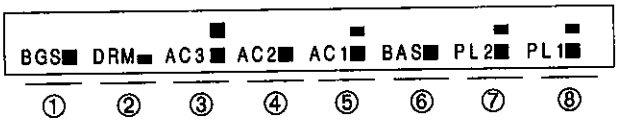
You can change the instruments in the **DRUMS** part to match the musical style.

Select the style by using the ④ or ⑤ buttons. Select from ROCK1, ROCK2, ELECTRIC, STANDARD and SYNTH.

- Note that this setting is unrelated to the DRUM KIT setting of the **SOUND** mode. (Refer to page 43.)

Volume balance (RECORD: PAGE 4)

You can use the balance buttons to adjust the volume of each part during the recording procedure.



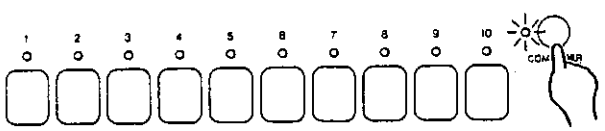
- The volume balance is not recorded with the rhythm patten.

Don't forget to press the **COMPOSER** button to turn it off when all the settings, corrections and recording have been completed.

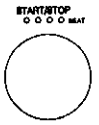
Playing back your stored rhythm pattern

Your newly created rhythm pattern can be played back just like the preset rhythms. The **BASS** and **ACCOMP** parts are played back when you use the **AUTO PLAY CHORD**.

1. Press the **COMPOSER** button in the **RHYTHM SELECT** matrix, and press the numbered button (**1~10** in the **RHYTHM SELECT** matrix) in which the desired rhythm is stored.

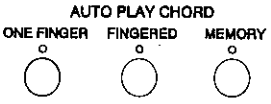


2. Press the **START/STOP** button.



♪ The **DRUMS** part begins to play back.

3. Press either the **ONE FINGER** or **FINGERED** button of the **AUTO PLAY CHORD** to turn it on.



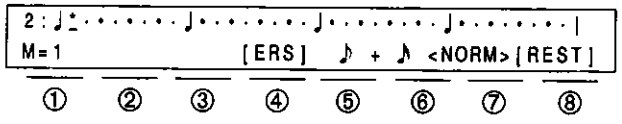
4. Specify the chord on the left section of the split keyboard.

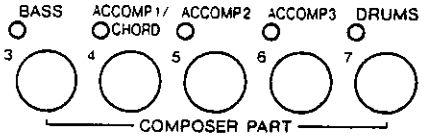
♪ The **BASS** and **ACCOMP** parts are played back in the specified chords.

Recording your performance note-by-note

With the "step recording" method, you record the individual notes of your performance one-by-one on the display, much as you would write a music score. This method is extremely convenient when you wish to record a complicated pattern without error, for example.

Step record mode (RECORD: PAGE 2)

The notes are recorded one-by-one with the step record display on PAGE 2 of the [RECORD] display. (First complete the procedures described in "Preparing to create a new rhythm pattern" on page 57.)

1. Select the part of the rhythm pattern you wish to record by pressing one of the **COMPOSER PART** buttons.



- You can select **DRUMS**, **ACCOMP 1**, **ACCOMP 2**, **ACCOMP 3** or **BASS**. The indicator of the selected part flashes.
- If an **ACCOMP** or **BASS** part is specified, select the sounds and effects, etc. for the specified part.

2. Specify the measure number you wish to record first by using the ① buttons.

3. Use the **TRANSPOSE** buttons to move the cursor to the dot (note) on the display you wish to record.

- Each dot on the display represents one-eighth of a quarter-note, in other words, one thirty-second note.

4. Specify the note value and the actual length of the produced sound ("gate time").

Note value

Use the ⑤ buttons to specify the note value. You can specify any of the following:

$\mathfrak{3}_3$, $\mathfrak{3}_3$, $\mathfrak{3}_3$, $

5. Play the note on the keyboard.
- The pitch and "velocity" (how hard the key was pressed) are also stored.
- The dot on the display where the note is stored changes to a * mark.
- When a note is recorded, the cursor automatically moves the specified note value to the next unrecorded position.
- The **DRUMS** part notes are input with the **KEYBOARD PERCUSSION** keys.
- Record the performance in C major for correct chord progressions during playback. To store the performance in a different scale, follow the REC CHORD SET procedure (SETTING menu, PAGE 3) before beginning the recording. (Refer to page 58.)
- If you make a mistake, you can correct the data at any given position. Refer to the following section on "Correcting the data".
- The maximum number of notes which can sound simultaneously is the same as in real-time recording. (Refer to page 60.)

[REST]
Store a rest by pressing the ⑧ buttons.
- Specify the value of the rest with the ⑤ and ⑥ buttons, the same as for note values.
- Positions on the display at which no note has been recorded are played back as rests.

6. Repeat steps 3~5 to continue storing notes.
- When you have finished storing the notes in the measure, go to the next measure and continue storing.

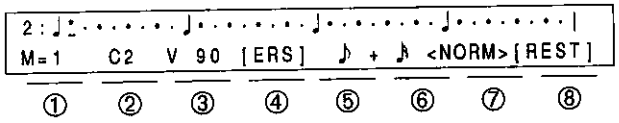
7. Repeat steps 1~6 to store the other parts of the pattern.

8. When you have completed storing all the parts, press the **COMPOSER** button to turn it off.

Correcting the data

Data which is stored with the step recording mode can easily be corrected or erased.

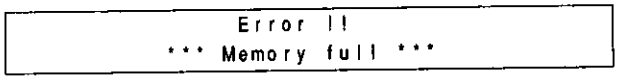
1. Use the **TRANSPOSE** buttons to move the cursor to the position you wish to correct.



- The name of the stored sound is displayed at ② and the sound's volume (velocity) (0~127) at ③.
- If the cursor is moved to a position at which a chord is stored, the display of the data which is stored at that position changes each time a **TRANSPOSE** button is pressed.
- Press either ④ [ERS] button to erase the data at the cursor position.

2. Store the correct data.
- Change the pitch (note name) with the ② buttons and/or the velocity with the ③ buttons.
- You can record the **DRUMS** sounds and volume in the same manner as for realtime recording. (Refer to page 59.)
- When you have completed correcting the data, press the **COMPOSER** button to turn it off.
- To play back the stored pattern, refer to page 60.

Memory capacity
Expressed in terms of notes, the total memory capacity of the **COMPOSER** is approximately 2400 notes. When the memory is full, an error tone sounds and the following display appears. No more data can be stored in the **COMPOSER**.



- The remaining memory is shown as a percentage (%) on the MEMORY SELECT display.

Copying a rhythm pattern

One convenient way of creating a rhythm pattern is to copy a preset rhythm (including **AUTO PLAY CHORD** rhythms) or a recorded **COMPOSER** rhythm into another **COMPOSER** memory, and then change parts of it before storing it.

PATTERN COPY (COPY: PAGE 1)

Use the PATTERN COPY function to copy a preprogrammed or recorded rhythm pattern.

1. Press the **COMPOSER** button to turn it on. Select the memory number for and assign a name to the new rhythm pattern.

2. On the COMPOSER MENU display, press either ⑥ button to select [COPY].
- The display changes to the following.

```
1:PATTERN COPY                    TO:MEMORY10
FROM:<16BEAT1> <16Rock1>                [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

3. Use the ② and ③ buttons to select the name of the rhythm you wish to copy; use the ④ and ⑤ buttons to select the name of the rhythm variation.
- You can also use the buttons in the **RHYTHM SELECT** matrix and the **RHYTHM VARIATION** buttons.

4. Press either ⑧ button for [YES].
- A copy of the rhythm and its variation is stored in the specified memory and the display changes to the following.

```
*** Pattern copy completed !! ***
```

- You can now edit the stored copy by pressing the **MENU** button to return to the COMPOSER MENU display, selecting [RECORD], then selecting either 1: REALTIME REC or 2: STEP REC, and then following the procedures for editing the performance.

5. When you have finished editing the rhythm pattern, press the **COMPOSER** button to turn it off.

Copying a fill-in pattern (COPY: PAGE 2)

By copying fill-in and intro patterns, you can select the desired fill-in and intro patterns from the **RHYTHM SELECT** to store in the **COMPOSER**. These patterns can then be selected with the COMPOSER MODE (explained later).

1. Press the **COMPOSER** button to turn it on. Select the memory number for and assign a name to the new rhythm pattern.

2. On the COMPOSER MENU display, press either ⑥ button to select [COPY].

3. Use the **PAGE** buttons to go to the 2: FILL-IN PTN COPY display.

```
2:FILL-IN PTN COPY                TO:MEMORY10
FROM:<16BEAT1> <16Rock1> <FILL 1>       [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

4. Use the ② and ③ buttons to select the name of the rhythm you wish to copy; use the ④ and ⑤ buttons to select the name of the rhythm variation.
- You can also use the buttons in the **RHYTHM SELECT** matrix and the **RHYTHM VARIATION** buttons.

5. Use the ⑥ and ⑦ buttons to select the pattern you wish to copy: FILL 1, FILL 2, INTRO or ENDING.

6. Press either ⑧ button for [YES].
- A copy of the specified pattern is stored in the memory.
- You can now edit the stored copy by pressing the **MENU** button to return to the COMPOSER MENU display, selecting [RECORD], then selecting either 1: REALTIME REC or 2: STEP REC, and then following the procedures for editing the performance.

7. When you have finished editing the pattern, press the **COMPOSER** button to turn it off.

Creating your own intro, fill-in and ending patterns

The COMPOSER MODE is the function to play back the fill-in, intro and ending patterns you have created and stored in specific **COMPOSER** memories each time a **FILL IN** button or the **INTRO & ENDING** button is pressed during a **COMPOSER** performance.

Setting the COMPOSER MODE (MODE: PAGE 1)

1. Make and record each fill-in, intro and ending pattern in a different **COMPOSER** memory number.
- You can use the FILL-IN PTN COPY function to copy the desired pattern from a preset rhythm. Using the copy as a foundation, you can then change parts of it to create a new pattern. (Refer to page 63.)

2. Press either ⑧ button to select [MODE] from the COMPOSER MENU display.

```
===== COMPOSER MENU =====
 SETTING    RECORD    COPY    MODE
   ①  ②  ③  ④  ⑤  ⑥  ⑦  ⑧
```

- The display changes to the following.

```
1:COMPOSER MODE      INTRO FIL1 FIL2 ENDG
  <NORMAL>             1    2    3   10
   ①  ②  ③  ④  ⑤  ⑥  ⑦  ⑧
```

3. Select EXPAND with the ② buttons
   NORMAL: The **FILL IN** and **INTRO & ENDING** buttons function normally.
   EXPAND: The specified stored pattern is played back when the corresponding **FILL IN** or **INTRO & ENDING** button is pressed.

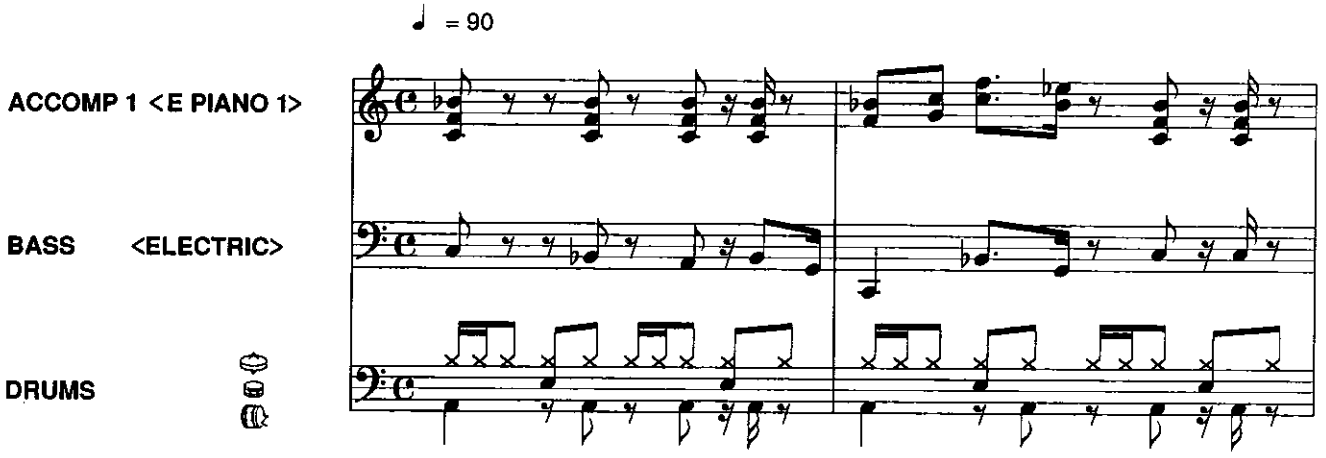
- At this time, if a pattern with a different time signature is stored in one of the **COMPOSER 1~10** memory buttons, the following warning message appears on the display. A pattern with a time signature different from that of the playback pattern cannot be used in the intro, fill-in or ending.

```
Warning !!
*** Time signature mismatch ***
```

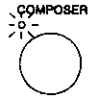
4. At display positions ⑤~⑧, specify the **COMPOSER** memory numbers (**1~10**) to play back when the corresponding panel button (**INTRO, FILL IN 1, FILL IN 2, ENDING**) is pressed.
- For example, if you set FIL1 to "2", then when the **FILL IN 1** button is pressed during playback of a **COMPOSER** rhythm, the pattern stored in **COMPOSER** memory number **2** is played back as a fill-in pattern.

5. When you have finished making the setting, press the **COMPOSER** button to turn it off.

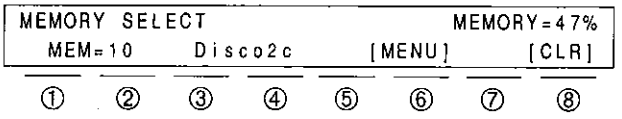
Example of creating a COMPOSER pattern

Store the following pattern to create an accompaniment pattern.

Preparing to record

1. Turn on the **COMPOSER** button.



- The MEMORY SELECT display appears.

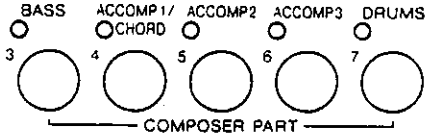


2. Select the **COMPOSER** memory number with the ② buttons or with the buttons numbered **1~10** in the **RHYTHM SELECT** matrix.

3. Press either ⑧ button, and then on the MEMORY CLEAR display, press either ⑧ button to clear the selected memory. (Refer to page 57.)

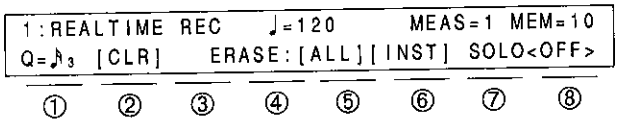
4. Assign a name with the ③ and ④ buttons and the **TRANSPOSE** buttons. (Refer to page 57.)

5. Turn on the **DRUMS** button in the **COMPOSER PART** section.



- The **DRUMS** button indicator flashes.
- The display changes to the realtime recording display.

Store the DRUMS part with realtime record



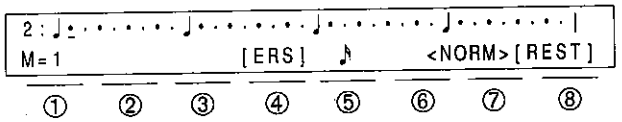
1. Set the quantize level to ♪ with the ① buttons. Set the tempo to ♩=90 with the **TEMPO/PROGRAM** dial.

2. While listening to the metronome, play the drums part with the **KEYBOARD PERCUSSION** keys (on the keyboard).

- The two measures of the pattern are continuously repeated, so you can add notes while listening to the notes already recorded.
- If you make a mistake, you can erase portions of the performance with the ⑤ and ⑥ buttons. All of the recorded performance is erased as long as a ⑤ button is kept depressed. To erase a particular instrument sound only, while pressing the corresponding **KEYBOARD PERCUSSION** key, press either ⑥ button. The specified instrument sound is erased as long as a ⑥ button is kept depressed.

Store the BASS part with step record

1. Press the **PAGE** ∧ button one time to go to the PAGE 2 display.



2. Turn on the **BASS** button in the **COMPOSER PART** section.
- The **BASS** button indicator flashes.

3. In the **SOUND SELECT** matrix, select **ELECTRIC BASS**. Turn on the **SOUND VARIATION 1** button.

4. Use the **TRANSPOSE** buttons to move the cursor to the position where you are going to store a **BASS** part note. Select the note value with the ⑤ buttons. Play the note on the keyboard.
- If you make a mistake, press either ④ button for [ERS]. The data which is displayed is erased.

Store the ACCOMP 1 part with realtime record

1. Press the **PAGE** ∨ button one time to go to the PAGE 1 display.

2. Turn on the **ACCOMP 1** button in the **COMPOSER PART** section.
- The **ACCOMP 1** indicator flashes.

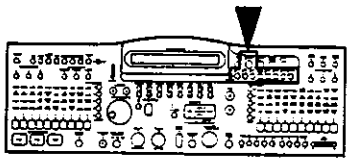
3. In the **SOUND SELECT** matrix, select **E PIANO 1**. Turn on the **SOUND VARIATION 2** button.

4. Play the **ACCOMP 1** part in time with the other recorded parts.
- If you make a mistake in playing, you can use the ⑤ buttons to erase portions of the recording.

5. When you have completed recording all the parts, press the **COMPOSER** button to turn it off.
- The stored pattern is selected in the same manner as other rhythms in the **RHYTHM SELECT** matrix. (Refer to page 31.)

Part VI Sequencer

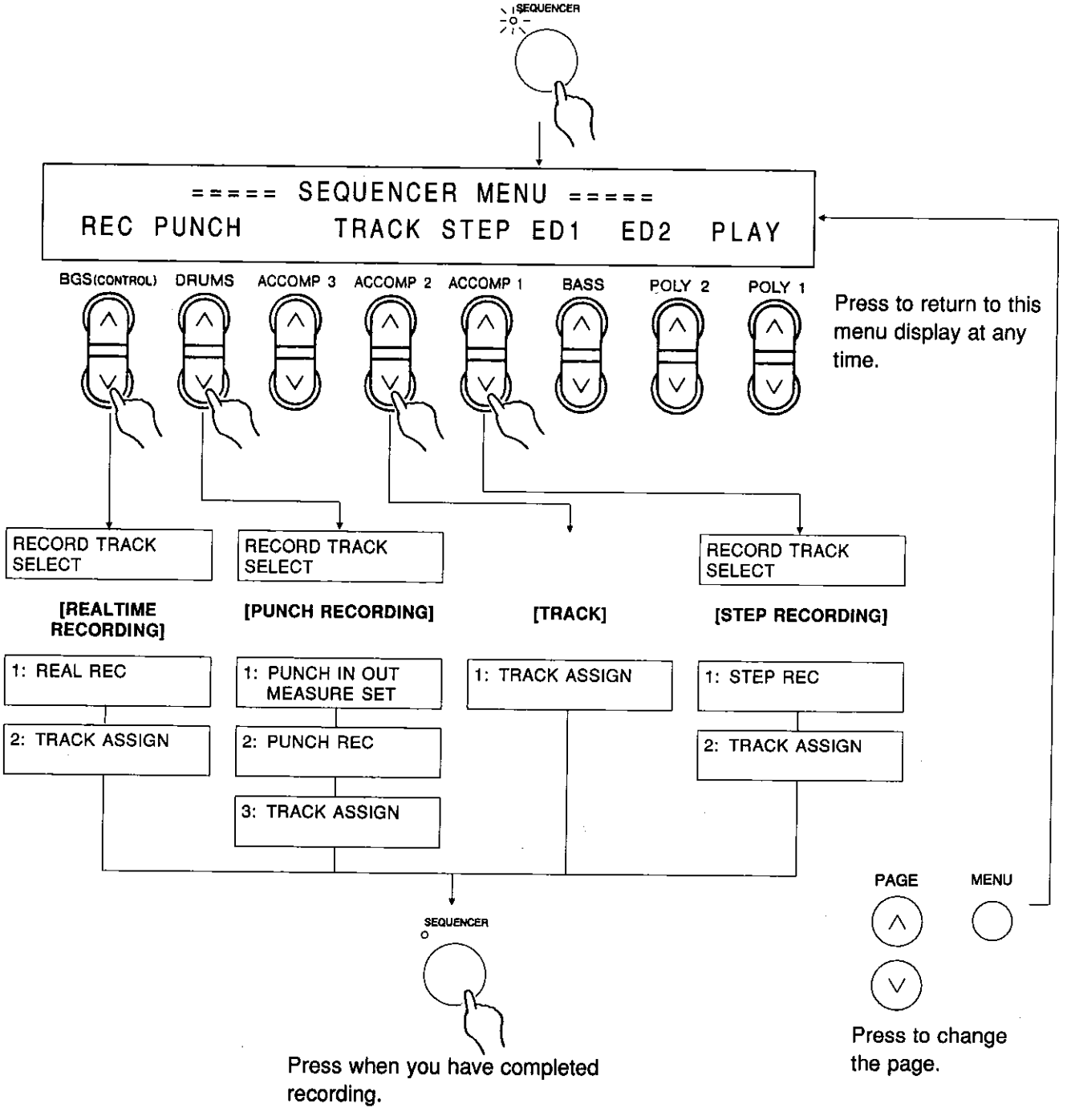
The **SEQUENCER** stores your entire performance—melody and accompaniment, sound and panel setting changes, even changes in the rhythm—for completely automatic playback whenever you desire.



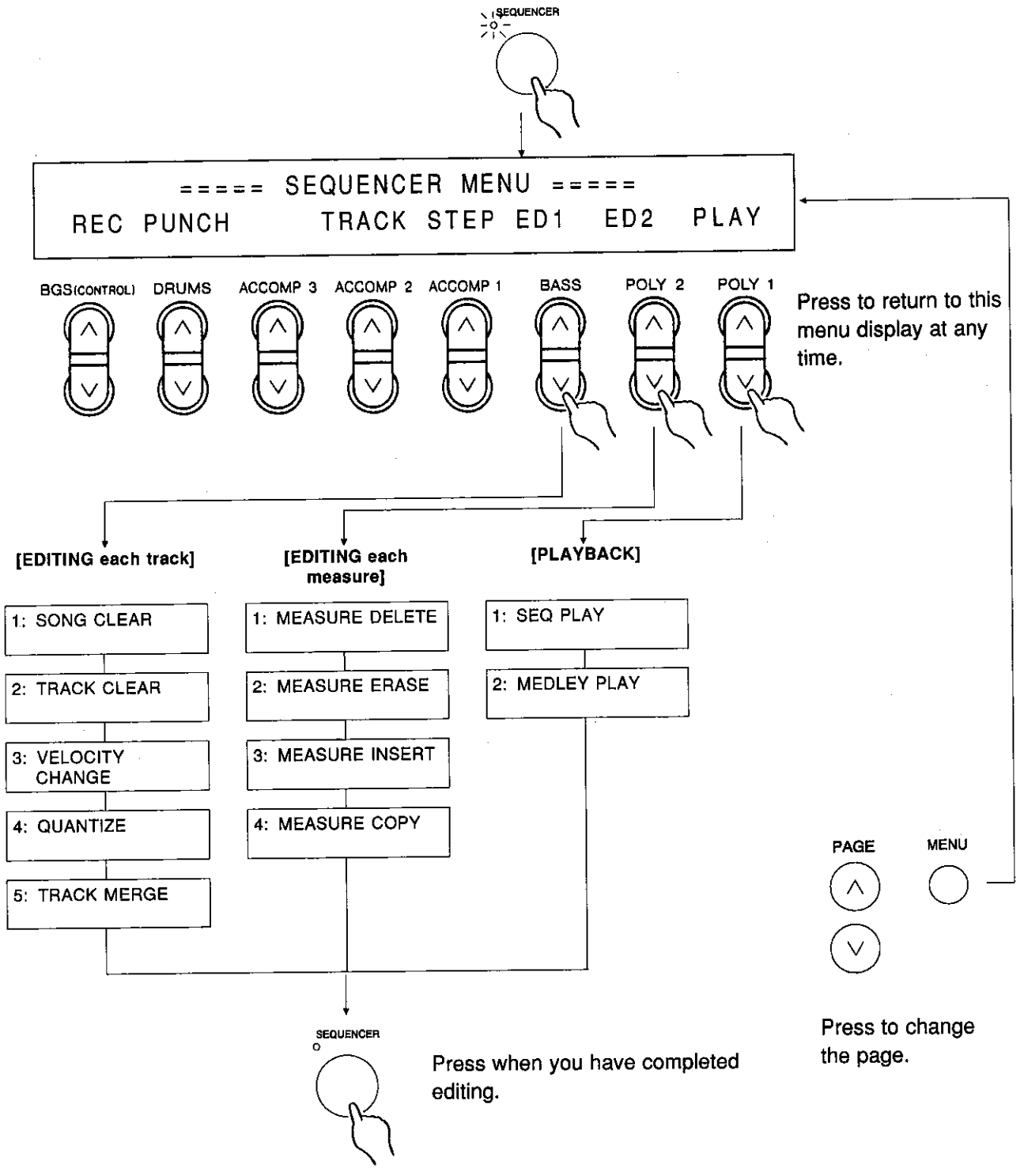
Outline of the SEQUENCER

Two methods of recording are available—realtime recording (whereby the performance is recorded with the timing exactly as it was played), and step recording (whereby the notes are input one by one.)

Recording functions



Editing functions

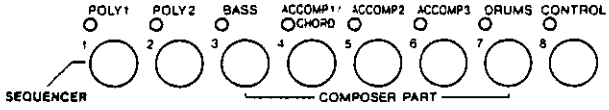


Parts and tracks

Your keyboard has 8 **SEQUENCER** tracks (physical location) and 11 **SEQUENCER** parts (logical location). Each part is already assigned to a track number **1~8**. By performing multi-track recording, you can create an ensemble performance of up to 8 parts.

SEQUENCER parts

The following summary explains what is stored in each **SEQUENCER** part.



Part name [name on display]	Used for	Recorded contents
POLY 1 [PL1] **POLY 2** [PL2] **ACCOMP 1** [AC1] **ACCOMP 2** [AC2] **ACCOMP 3** [AC3] **BASS** [BAS]	Recording the performance of each part (realtime/step record)	• Sound and volume settings • Effect settings for each sound (**SUSTAIN, DIGITAL EFFECT** on/off) • Rhythm **START/STOP** • **FILL IN 1, 2, INTRO & ENDING** on • **PITCH BEND** wheel, **MODULATION** wheel operation data
DRUMS [DRM]	Recording the **DRUMS** performance with the **KEYBOARD PERCUSSION** and the **MANUAL PERCUSSION** performance (realtime/step record)	• Volume setting • Rhythm **START/STOP** • **FILL IN 1, 2, INTRO & ENDING** on
CONTROL [CTL]	Recording changes in the panel button status (realtime/step record)	• Rhythm **START/STOP** • **FILL IN 1, 2, INTRO & ENDING** on • **AUTO PLAY CHORD** status (**ONE FINGER, FINGERED, MEMORY**) • **KEYBOARD PERCUSSION** on/off • **TECHNI-CHORD** on/off • **DYNAMIC ACCOMP, MUSIC STYLE ARRANGER** on/off • Selection changes in the **RHYTHM SELECT** • Selection changes in the **BGS, FADE OUT** on, **BGS** volume setting • Tempo setting • **CONDUCTOR** status • **SPLIT POINT, TRANSPOSE** status • **DIGITAL REVERB** on/off • Selection changes in the **PANEL MEMORY** • Foot Switch operation (separately sold option) • Expression Pedal operation (separately sold option)

(continued on next page)

Part name [name on display]	Used for	Recorded contents
AUTO PLAY CHORD [APC]	(When **AUTO PLAY CHORD** is on) **AUTO PLAY CHORD** chords for the **ACCOMP 1** part (realtime record) (When **AUTO PLAY CHORD** is off) Recording the **ACCOMP 1** part performance (real-time record)	• **ACCOMP 1** settings (sound, volume, **SUSTAIN** and **DIGITAL EFFECT** on/off, **PITCH BEND** wheel and **MODULATION** wheel operation data) • Rhythm **START/STOP** • **FILL IN 1, 2, INTRO & ENDING** on • **AUTO PLAY CHORD** status (**ONE FINGER, FINGERED, MEMORY**)
CHORD [CHD]	**AUTO PLAY CHORD** chords (step record)	• **FILL IN 1, 2, INTRO & ENDING** on
RHYTHM [RHY]	Panel operation data related to the rhythm (step record)	• Rhythm **START/STOP** • Selection changes in the **RHYTHM SELECT** • **FILL IN 1, 2, INTRO & ENDING** on • Tempo setting

- In the initial state, the [APC] (**AUTO PLAY CHORD**) part (in the case of realtime record) or the [CHD] (**CHORD**) part (in the case of step record) is assigned to the **ACCOMP 1/CHORD** track.
- You can use the TRACK ASSIGN function to assign parts to tracks as desired. (Refer to page 83.)

- Maximum number of notes which can sound simultaneously.

POLY 1	8	The maximum number of notes which can sound simultaneously for all parts combined is 32.
POLY 2	8	
ACCOMP 1	4	
ACCOMP 2	4	
ACCOMP 3	4	
BASS	1	
DRUMS	6	

About the time signature

The **SEQUENCER** counts the number of measures according to the time signature of the selected rhythm.

- When recording or playing back parts other than the **RHYTHM** part, the number of measures corresponds to the time signature of the rhythm at the beginning of the track.
- When data is recorded in the **RHYTHM** part and that part button is turned on, the number of measures during recording or edit corresponds to the time signature of the rhythm recorded in the **RHYTHM** part. If you are going to change the time signature (by changing the rhythm selection) in the middle of the song, you should record the rhythm change in the **RHYTHM** part. (Refer to page 83.)
- The time signature of the preset rhythms is 4/4, with the following exceptions:
  3/4: **WALTZ 1, 2** and **JAZZ WALTZ**

Data for one tune can be stored in each part of the **SEQUENCER**.
Before storing a new song in a part in which another tune or chord progression is currently stored, first follow the SONG CLEAR or TRACK CLEAR procedure (refer to page 84) to erase the previously stored data. If you wish to keep the stored contents, you can save them on a memory disk with the Digital Disk Recorder (refer to page 99).

Realtime recording

With the realtime recording method, you play the keyboard, either in time with the internal metronome or at a free tempo. Your performance is recorded with the timing exactly as it was played. Realtime recording allows you to store a tune very easily with all the subtle nuances just as you play them.

Selecting the part to record

Before beginning to record, use the following procedure to select the recording part.

1. Set the sounds, effect, volume, etc. for the parts you are going to record.

2. Press the **SEQUENCER** button to turn it on.

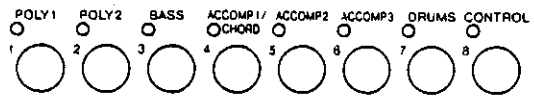
- The SEQUENCER MENU appears on the display.

```
      ===== SEQUENCER MENU =====
REC PUNCH      TRACK STEP ED1  ED2  PLAY
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

3. Press either ① button to select [REC].
- The eight **SEQUENCER** part indicators flash, and the RECORD TRACK SELECT display appears.

```
  RECORD TRACK SELECT
[PL1][PL2][BAS][APC][AC2][AC3][DRM][CTL]
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

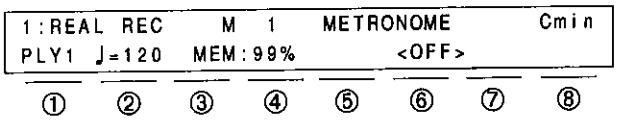
4. Select the part you are going to record by using the ①~⑧ balance buttons below the display or the **1~8 SEQUENCER** part buttons on the panel.



- The indicator for the selected **SEQUENCER** part flashes slowly, and the indicators for the other parts go out.
- When multiple parts are on in the **CONDUCTOR**, those parts can be selected with the **SEQUENCER** part buttons and stored simultaneously.
- At this time, the panel settings from step 1 are recorded in the specified part. When playing back, these beginning panel settings are recalled by pressing the **SEQUENCER RESET** button. (Refer to page 73.)
- When the **AUTO PLAY CHORD** is on, the chord progression for the **AUTO PLAY CHORD** of the **ACCOMP 1** part is stored in the [APC] track. During playback, an automatic accompaniment which follows the stored chord progression is produced.
- The REAL REC (realtime recording) display appears.

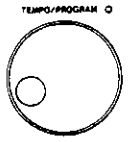
Recording procedure (REC: PAGE 1)

Record your performance using the realtime recording method.



Preparing to record

1. Use the **TEMPO/PROGRAM** dial to set the tempo.



- The tempo is indicated at ② as "♩=".
- You can record at a slow speed and play back at a higher speed without changing the pitch.
- The part which is ready for recording is shown at ①. If multiple parts have been selected, the part which was selected last is displayed.

2. Turn the metronome sound ON or OFF with the ⑥ buttons.
- When the metronome is set to ON, the rhythm pattern does not start.
- The metronome sound is not recorded.

Begin recording

3. Play the keyboard.
- Recording starts.
- If you press the **START/STOP** button, the rhythm begins to play and recording starts.
- If you wish to begin the performance with an **INTRO** or a **COUNT**, turn the respective button on before turning on the **START/STOP** button.
- When the metronome is set to ON, it sounds for two measures of blank play, after which recording begins.
- On the display, "M=" indicates the current measure number.
- The remaining **SEQUENCER** storage capacity is indicated at ④. The indicated storage capacity is for all **SEQUENCER** parts combined.
- To change the volumes while recording, press the **SOUND** button to recall the balance display and adjust the volume with the balance buttons.

End the recording

4. When you have finished playing the part, press the **SEQUENCER** button to turn it off.

Multi-track recording

When recording several tracks (parts), you can record one track while listening to the track or tracks already recorded.

1. Follow the procedure to record the first track.
- When you turn the **SEQUENCER** button off, confirm that the indicator for the track you recorded is lit. If it is not lit, press the track (part) button to turn it on.

2. Follow the procedure to record the next track.
- When the **START/STOP** button is turned on, the track recorded in step 1 is played back. You can record the next track in time with this.

3. Repeat the above steps to record all the desired parts.

- For a step-by-step example of recording in the **SEQUENCER**, refer to page 92.

Memory capacity

Expressed in terms of notes, the total number of notes which can be recorded in all the **SEQUENCER** parts is about 4900. When an error tone sounds and the following error message appears, the memory is full and no more data can be stored in the **SEQUENCER**.

```
Error !!
*** Memory full ***
```

- The memory capacity can be expanded. (Refer to page 97.)

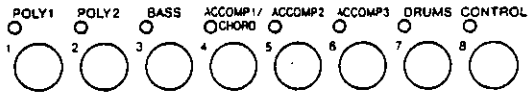
Playing back the recorded performance

Play back the performance you stored in the **SEQUENCER**. You can specify the measure from which you wish playback to begin. You can also adjust the playback tempo. Because the performance data is recorded digitally, the pitch does not change even when you adjust the tempo.

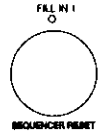
Playback procedure

Follow the procedure below to play back your recorded performance.

1. Confirm that the **SEQUENCER** part indicators for the tracks you recorded are lit.
- If the indicators are off, press the buttons to turn them on.

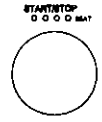


2. Press the **SEQUENCER RESET** button to turn it on.



- The **SEQUENCER** returns to the beginning of the song and the beginning panel settings are recalled.

3. Press the **START/STOP** button to turn it on.



♪ The recorded performance is played back automatically.

Playback setting (PLAY: PAGE 1)

Adjust the settings related to playback.

1. Press the **SEQUENCER** button to turn it on.
- The SEQUENCER MENU appears on the display.

```
      ===== SEQUENCER MENU =====
REC PUNCH      TRACK STEP ED1  ED2  PLAY
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

2. Select [PLAY] by pressing either ⑧ button.
- The display changes to the following playback setting display.

```
1:SEQ PLAY                          Cmin
 M  1      [⋈◀] [FF]      ♩=90
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

3. Specify the measure at which you wish playback to start with the ① buttons.
- The measure number is indicated as "M=".
- After you specify the measure number, the M disappears briefly. When it reappears, you can begin the playback.
- After pressing a ① button, the **TEMPO/PROGRAM** dial can be used to specify the measure.
- You can search for the measure by pressing either ④ button while listening to the recorded performance. (This button does not function in this manner during normal playback.)
- Press either ③ button to return to the first measure of the performance.

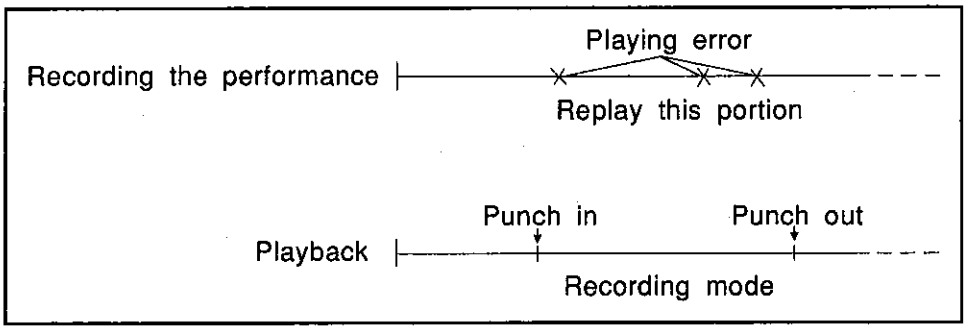
4. The **TEMPO/PROGRAM** dial is used to adjust the tempo.
- The tempo is indicated at ⑥ as "♩=".

5. Press the **START/STOP** button to turn it on.

♪ The recorded performance is played back automatically from the specified measure.
- When playback is begun from a measure in which an **INTRO**, **FILL IN**, or **ENDING** is recorded, the corresponding button does not function.

Correcting your recorded performance

If you make a playing error during recording or would like to change the recording for some other reason, by using the punch recording feature you can correct a selected portion of the performance without having to redo the whole part.



Setting the punch in/punch out measures (PUNCH: PAGE 1)

"Punch in" means that the mode is switched from the playback mode to the recording mode on the spot; "punch out" is the reverse, where the mode is immediately switched from recording to playback. Before making corrections to your performance, you specify the punch-in and punch-out measures.

1. Press the **SEQUENCER** button to turn it on.
- The SEQUENCER MENU appears on the display.

```
      ===== SEQUENCER MENU =====
REC PUNCH      TRACK STEP ED1  ED2  PLAY
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

2. Press either ② button to select [PUNCH].
- The display changes to the RECORD TRACK SELECT display.

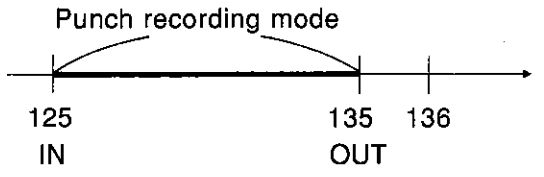
```
  RECORD TRACK SELECT
[PL1][PL2][BAS][APC][AC2][AC3][DRM][CTL]
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

3. Select the part or parts which contain the portion you want to correct by using the ①~⑧ balance buttons or the **1~8 SEQUENCER** part buttons on the panel.
- The indicators for the selected **SEQUENCER** parts flash.
- The display changes to the following punch-measure-setting display.

```
1:PUNCH IN OUT MEASURE SET
<DIS>  :  IN = <125>    OUT = <135>
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

4. Specify the number of the punch-in measure with the ④ buttons and the number of the punch-out measure with the ⑦ buttons.
- The measure number changes quickly when a button is held down.
- The punch-out measure number is not recorded.

Example: IN=125, OUT=135



- You can also punch in and punch out instantaneously by using the panel buttons during punch recording. (Refer to page 75.)
- When <DIS> is specified at ①, the punch-in/punch-out measure-setting is disabled during punch recording. When <EN> is specified at ①, the punch-in/punch-out will take place at the specified measures during punch recording.

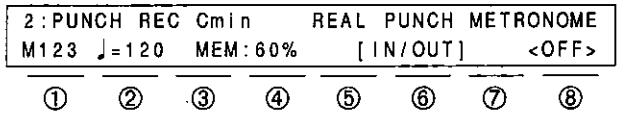
Procedure for punch recording (PUNCH: PAGE 2)

Playback the recorded part and perform punch recording.

Setting up

1. In addition to the part(s) you are going to correct, you can also listen to other parts during punch recording. Turn on the parts you wish to play back by using the **1~8 SEQUENCER** part buttons on the panel.

2. Use the **PAGE** buttons to select the 2: PUNCH REC display.



3. Set the measure at which you wish playback to begin by using the ① buttons.
- The measure number changes quickly when a button is held down. The **TEMPO/PROGRAM** dial can also be used to specify the measure.
- After you specify the measure number, the M disappears briefly. When it reappears, you can begin the playback.
- If a ② button is pressed, the ② buttons or the **TEMPO/PROGRAM** dial can be used to set the tempo. The tempo is displayed at ②.
- The remaining memory is displayed at ④ as "%".

4. Select the metronome ON/OFF with the ⑧ buttons.
- You can also switch it during recording.

Punch recording

5. Press the **START/STOP** button.

♪ Automatic playback of the specified parts begins from the specified measure. Other parts whose buttons are turned on are also played back.

6. Correct the performance.

■ When you have already specified the punch-in/punch-out measure numbers

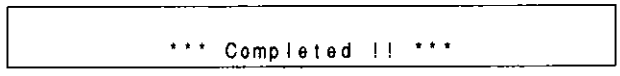
The mode changes automatically to the punch-in and punch-out modes at the measures you specified on the PUNCH IN OUT MEASURE SET display.

- The mode will not change if the punch-in or punch-out measures have not been set correctly; for example, if the specified measure number for the beginning of playback is larger than the punch-in measure number, or if the punch-out measure number is larger than the total number of recorded measures.

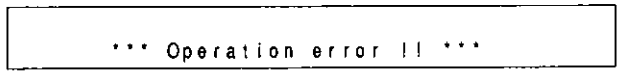
■ To specify punch-in and punch-out timing during playback

During playback, press a ⑥ button to punch in (or punch out). Punch-in also begins when the keyboard is played.
- Even when the punch-in measure has been specified on the PUNCH IN OUT MEASURE SET display, you can begin punch-in before the specified punch-in measure by pressing either ⑥ button or by playing the keyboard.
- During punch recording, the [IN/OUT] indication at ⑥ flashes.
- You can specify the punch-in/punch-out points with the optional Foot Switch (SZ-P1). (Refer to page 96 for the setting.)

7. When you have finished recording, press the **SEQUENCER** button to turn it off.
- When punch recording has been successfully completed, the following display appears.



- If punch recording has not been successfully completed, the following display appears. In this case, perform punch recording again.



Step recording

Step recording is simply a method of making a tune by storing the sounds note-by-note on the display. Instead of playing the keyboard directly as in the realtime recording mode, you can take your time to input each single note. This is an especially effective method for storing complicated passages that are difficult to play or when the exact timing of a part is critical.

Outline of step recording

The following three types of input are available, depending on the selected part.

■ Performance input

When storing the **POLY 1**, **POLY 2**, **BASS**, **ACCOMP 1**, **2**, **3**, **DRUMS** and/or **CONTROL** track, the performance and panel settings are stored for each part.

■ CHORD STEP REC

This mode is for storing the chord [CHD] track, in which the chord progression for the **AUTO PLAY CHORD** is stored. During playback, the **AUTO PLAY CHORD** accompaniment follows the stored chord progression.

■ RHYTHM STEP REC

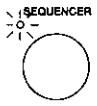
This mode is for storing the rhythm [RHY] track, which includes changes in the panel settings related to the rhythm (rhythm changes, the intro, fill-ins, ending, etc.).

- The rhythm part is designated by the TRACK ASSIGN procedure. (Refer to page 83.)

Selecting the part to store

Select the part (track) you wish to store first.

1. Press the **SEQUENCER** button to turn it on.



- The SEQUENCER MENU display appears.

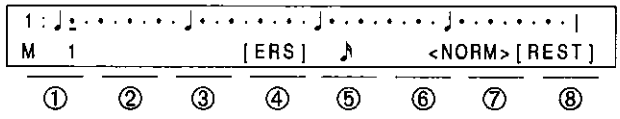
```
      ===== SEQUENCER MENU =====
REC PUNCH      TRACK STEP ED1  ED2  PLAY
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

2. Press either ⑤ button to select [STEP].
- The RECORD TRACK SELECT display appears.

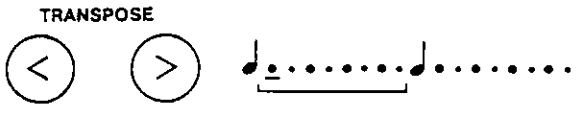
```
  RECORD TRACK SELECT
[PL1][PL2][BAS][CHD][AC2][AC3][DRM][CTL]
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧
```

3. Select the part (track) you wish to store by using the ①~⑧ buttons.
- You can also use the **SEQUENCER** part buttons to select the part. The indicator for the selected part flashes slowly.
- The [CHD] track is used for storing the chord progression for the **AUTO PLAY CHORD**. (Refer to page 80.)
- If you select the [APC] part for step recording, it changes automatically to the [CHD] part, and any contents of that track which were recorded in the realtime recording mode are erased.
- The display changes to the input display.

Storing parts (STEP: PAGE 1)

The performance of each part is stored note-by-note, somewhat as if you were writing a music score. Set up the sounds, effects, etc. for the selected part and perform the following procedure.

1. Specify the measure you wish to store first with the ① buttons.
- The measure number changes quickly when a button is held down.

2. Use the **TRANSPOSE** buttons to move the cursor to the note position (dot) you are going to store.



- Each dot represents one-eighth of a quarter-note (a thirty-second note).

- When storing triplets it may not be possible to match the timing exactly with the 1/32-note steps; but if you store by selecting triplet-type notes (indicated by a "3" on the display) in step 3 below, the correct timing is automatically stored.

3. Specify the note value with the ⑤ and ⑥ buttons, and the actual length of the produced sound ("gate time") with the ⑦ buttons.
- This step is not necessary for the **DRUMS** part.

Note value

Use the ⑤ buttons to specify the note value. You can specify any of the following:

𝅘𝅥𝅯3, 𝅘𝅥𝅯, 𝅗𝅥3, 𝅗𝅥, 𝅘𝅥3, ♪, ♩3, ♩, 𝅗𝅥, 𝅝, 𝅝×2~4

(A 3 designates a triplet-type note.)

- For note values other than these, use the ⑥ buttons to specify the note value to be added to that which you specified with the ⑤ buttons.

Example: To record a dotted quarter-note (♩.)

♩ + ♪

Gate time

Use the ⑦ buttons to specify the actual length of the produced sound for the desired legato or staccato effect.

The selected setting will affect the note length as follows:

<TENU> (tenuto) 100%
<NORM> (normal) 80%
<STAC> (staccato) 50%
<CUTT> (cutting) 25%

4. Play the note on the keyboard to specify the pitch.
- The dot on the display where the note is stored changes to a * mark.
- The **DRUMS** part performance is stored with the **KEYBOARD PERCUSSION** keys.
- When a note is recorded, the cursor automatically moves the specified note value to the next unrecorded position.
- If you make a mistake, you can erase the data at the cursor position by pressing either ④ button for [ERS].
- Any number of notes can be recorded at a position. However, the number of notes which can sound simultaneously for each part is limited. (Refer to page 70.)

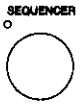
[REST]

Specify a rest by pressing either ⑧ button instead of playing a keyboard key.
- Specify the value of the rest with the ⑤ and ⑥ buttons, the same as for note values.
- Positions on the display at which no note has been recorded are read as rests.

5. Repeat steps 2~4 to continue storing notes.

6. When you have completed storing one part, select the next part to be stored from the RECORD TRACK SELECT display, and repeat steps 2~5.

7. When you have completed storing all the parts, press the **SEQUENCER** button to turn it off.



Storing sounds, effects and volumes (STEP: PAGE 1)

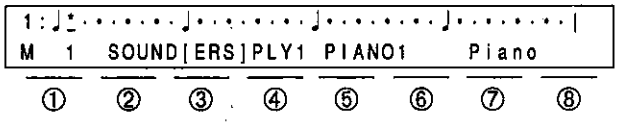
While you are storing, any changes in the sound, pitch bend, volume and other panel settings are also stored at the current cursor position on the display.

Storing program change (sound change) data

1. Move the cursor with the **TRANSPOSE** buttons to the position at which you wish to store a sound change.

2. Change the sound with the buttons in the **SOUND SELECT** matrix and with the **SOUND VARIATION** buttons.

- The SOUND display appears.

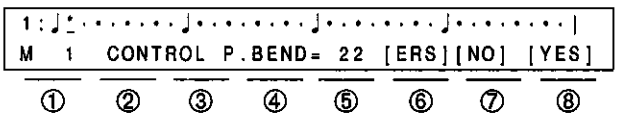


- The part name is displayed and can be specified at ④, the sound name at ⑤ and ⑥ and the variation name at ⑦ and ⑧.
- Pressing either ③ button for [ERS] will erase the data stored at the cursor position.

Storing control change data (PITCH BEND, MODULATION, for example)

1. Move the cursor with the **TRANSPOSE** buttons to the position at which you wish to store the data.

2. Store the pitch bend or modulation effect by operating the **PITCH BEND** or **MODULATION** wheel.
- The CONTROL display appears.



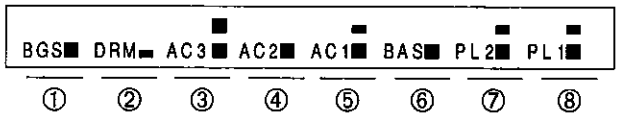
- The set value of the effect is displayed at ⑤. The value can be adjusted with the wheel.
- For **PITCH BEND**, **MODULATION**, and **START/STOP** function data, the name of the function is displayed at ④.
- Pressing either ⑥ button for [ERS] will erase the data stored at the cursor position.

3. Press either ⑧ button for [YES] to store the data.
- The displayed data is input at the cursor position.
- To cancel the data input, press either ⑦ button for [NO].

Storing balance volume data

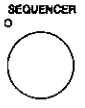
1. Move the cursor with the **TRANSPOSE** buttons to the position at which you wish to store the volume change.

2. Press the **SOUND** button to change the display to the volume balance display.



3. Adjust the volume with the balance buttons beneath the display.
- After a few seconds, the previous display reappears.

When you have completed storing all the parts, press the **SEQUENCER** button to turn it off.



Correcting data

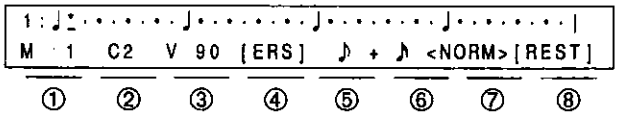
Data which was stored using the step recording method can be corrected or erased.

1. On the STEP RECORD display, use the **TRANSPOSE** buttons to move the cursor to the place (*) you wish to correct.

- There are three types of input data: performance data, SOUND data and CONTROL data. When more than one kind of data is stored at a single point, the different data is displayed in order each time a **TRANSPOSE** button is pressed.

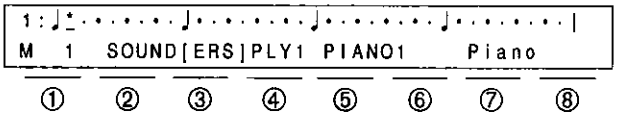
2. Correct the data.

Performance data



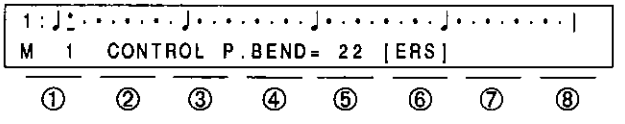
- The pitch of the note is displayed at ②. When a chord is recorded, a different note in the chord is displayed each time a **TRANSPOSE** button is pressed, along with its velocity, and the displayed note will sound. You can change the pitch with the ② buttons.
- The velocity (how hard the key was pressed) is displayed at ③. You can press either ③ button to correct the velocity.
- Pressing either ④ button for [ERS] will erase the performance data stored at the cursor position.

SOUND data



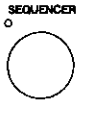
- The part is displayed at ④, the sound name at ⑤ and ⑥, and the variation name at ⑦ and ⑧. The **SOUND SELECT** and **SOUND VARIATION** buttons can be used to change the sound.
- Pressing either ③ button for [ERS] will erase the SOUND data stored at the cursor position.

CONTROL data



- The name of the function is displayed at ②~⑤. The setting can be changed.
- Pressing either ⑥ button for [ERS] will erase the control data stored at the cursor position.

3. When you have completed the changes, press the **SEQUENCER** button to turn it off.



Storing the chord progression (STEP: PAGE 1)

Store the chord progression for the **AUTO PLAY CHORD** in the [CHD] track. When the **AUTO PLAY CHORD** is used during playback, even if you do not specify the chords with your left hand, the chords change automatically.

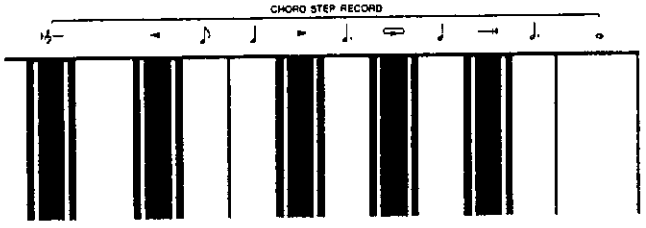
1. Press the **SEQUENCER** button to turn it on. On the SEQUENCER MENU display, press either ⑤ button to select [STEP].
- The RECORD TRACK SELECT display appears.

```
  RECORD TRACK SELECT
[PL1][PL2][BAS][CHD][AC2][AC3][DRM][CTL]
```
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

2. Press either ④ button to select [CHD].
- The CHORD STEP REC display appears.

```
1:CHORD STEP REC                    TRACK
M  1                    [DELETE]    [CLR]
```
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

3. While playing the chord with your left hand, select the length of the chord with your right hand.
- Use the **CHORD STEP RECORD** keys on the keyboard to specify the chord length.



Note value keys

- 𝅝 Press to store a whole note.
- 𝅗𝅥. Press to store a dotted half-note.
- 𝅗𝅥 Press to store a half-note.
- ♩. Press to store a dotted quarter-note.
- ♩ Press to store a quarter-note.
- ♪ Press to store an eighth-note.

Reset key

- 𝄋— Press to begin storing from the beginning.

Correction keys

- ◄ Press once to move back one chord.
- ► Press once to move forward one chord.

Repeat key

- ⇄ Press to complete storage and specify automatic repeat playback of the stored progression.

End key

- —𝄀 Press after the whole chord progression has been stored.

Example of storing a chord

Record a C major chord of ♩ length.

- A "beep" tone indicates that the chord has been successfully stored.
- On the display, the measure number is indicated at ①, the chord name at ③, and the length of the chord at ④.
- If a **FILL IN** button or the **INTRO & ENDING** button is pressed, the specified pattern is stored at that timing. (An intro can be stored only in the first measure.)
- If either ⑥ button is pressed ([DELETE]), the display data is erased and the following data moves up to take the place of the erased data.
- To erase the all data from selected track, press either ⑧ button for [CLR]. The TRACK CLEAR display appears.

```
1: TRACK CLEAR   Are you sure?
                              [NO] [YES]
```
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

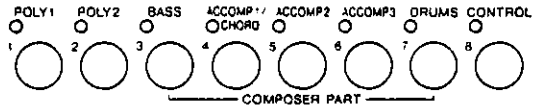
Press either ⑧ button for [YES] and the data is erased from the track. Press either ⑦ button for [NO] to cancel the TRACK CLEAR procedure.

4. Repeat the above steps to record the remaining chords.
- During the recording procedure, if you wish to correct a chord, use the Correction keys to advance or go back to the chord (it is displayed), press ⑥ for [DELETE] and then input the correct chord. The data following moves down by the specified chord length to "make room" for the inserted chord.

5. When you have completed storing the chord progression, press the End key.
- During playback, playback of the recorded chord progression stops at this point. For automatic repeat playback of the chord progression, press the Repeat key instead of the End key.

Playing back the chord progression

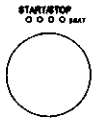
1. Confirm that the **ACCOMP 1/CHORD** part button is on.



- If it is off, press it to turn it on.

2. Select a rhythm.

3. Press the **START/STOP** button to turn it on.



♪ The **AUTO PLAY CHORD** begins to play according to the stored chord progression.

Correcting the recorded chord progression

Recorded chord data or **FILL IN** data etc. can be found and changed.

1. Follow steps 1 and 2 under "Storing the chord progression" to get the CHORD STEP REC display. Use the Correction keys to search for the recorded chord data.

- The measure beat is also displayed.
  Example:
  M123 .....Measure 123, beat 1
  M123 + ♪ ....Measure 123, beat 1.5
  M123_3 .....Measure 123, beat 3
  M123_3 + ♪ ..Measure 123, beat 3.5

- The lengths of rests are indicated by the respective rest value × its multiplier.
  Example:
  𝄽 .....1-beat rest (quarter rest)
  𝄾 .....1/2-beat rest (eighth rest)
  𝄽 × 1 + 𝄾 .....1-1/2-beat rest
  (dotted quarter rest)
  𝄽 × 10 .....10-beat rest
- You can use the ① buttons to specify the measure. When there is no data recorded for the first beat, then the first occurrence of recorded data is selected.

2. Correct the chord.

Chord data

```
1:CHORD STEP REC                          TRACK
M123_4     F#min7    ♩.    [DELETE]     [CLR]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- The chord data displayed at ③ and ④ is the name of the chord stored at the specified measure number and its length.
- To change the chord data, first press either ⑥ button for [DELETE] to erase the displayed data, and then store the new data. (If you do not erase the displayed data before entering new chord data, the new data is inserted at this point, and the displayed data is merely shifted by the amount of the length of the new chord.)

Rest data

```
1:CHORD STEP REC                          TRACK
M123_4     𝄽X3+𝄾     [DELETE]     [CLR]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- Rests can also be erased. In the above display, for example, each time a ⑥ [DELETE] button is pressed the rest is erased in units of 𝄽 × 1. The 𝄾 rest is erased last.
- Each time data is erased, all the following data "moves up" by the amount of the length of the deleted chord or rest.

End/repeat data

```
1:CHORD STEP REC                          TRACK
M123       END          [DELETE]     [CLR]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- When the End key is pressed at the end of the chord progression, END is shown on the display. When the Repeat key is pressed, REPEAT is shown.

3. When you have completed making corrections, turn off the **SEQUENCER** button.

Storing a rhythm progression (STEP: PAGE 1)

Changes in the rhythm selection and tempo, as well as the intro, fill-ins and the ending, can be stored by measures with the step recording method.

- The rhythm is stored in the special [RHY] track. You select which track is used for the rhythm part when you use the track assign function, so first follow this procedure on page 83.

1. On the RECORD TRACK SELECT display, select the track to which you assigned the rhythm part.
- The RHYTHM STEP REC display appears.

```
1:RHYTHM STEP REC                          TRACK
M  1                          [ERS][REP][END][CLR]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

2. Specify the measure number with the ① buttons.

3. Store the settings by operating the buttons on the panel.

Data which can be stored

- **RHYTHM SELECT** selections
- **START/STOP**
- **INTRO, COUNT, FILL IN, ENDING**
- Tempo changes

- Be sure to store the **START/STOP** data in the measure in which the rhythm starts. If storing an **INTRO**, store the **INTRO** data before the **START/STOP** data.
- The name of the selected rhythm appears at ② and ③ on the display, and the name of the variation at ④.
- If either ⑤ button is pressed ([ERS]), the displayed data is erased.
- If either ⑧ button is pressed ([CLR]), the TRACK CLEAR display will appear. Press either ⑧ button ([YES]) to erase all the data on the track.

Tempo input display

When the **TEMPO/PROGRAM** dial is used to input the tempo, the display changes to the following.

```
1:RHYTHM STEP REC
M  1   TEMPO  ♩=120                  [NO] [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- The tempo is displayed at ④. If the displayed tempo is correct, press either ⑧ button for [YES] to store the tempo. To cancel the tempo change, press either ⑦ button for [NO].

4. Repeat the steps to change the settings as necessary.

5. Pressing either ⑥ or ⑦ button will end the input function.
- Press either ⑥ button ([REP]) for repeat play during playback.
- Press either ⑦ button ([END]) to end playback at this point.

Correcting the recorded rhythm progression

Recorded rhythm data can be found and changed.

```
1:RHYTHM STEP REC                          TRACK
M 47  16BEAT1  16Rock1[ERS][REP][END][CLR]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Follow steps 1 and 2 under "Storing a rhythm progression" to get the RHYTHM STEP REC display. Specify the measure of the recorded rhythm data with the ① buttons.

2. Change the rhythm data with the **RHYTHM SELECT** buttons and the **RHYTHM VARIATION** buttons.
- If you select a rhythm with a different time signature, the time signature of all the measures following will also change (if data is not yet recorded in other parts.)
- If data has already been recorded in other parts, you cannot select a rhythm with a different time signature. If you attempt to do so, the following error display appears.

```
Change impossible !!
*** Time signature mismatch ***
```

3. When you have completed making corrections, turn off the **SEQUENCER** button.

Assigning parts to tracks

Each **SEQUENCER** part is already assigned to a track number 1~8. However, you can use the "TRACK ASSIGN" function to assign parts to tracks as you wish. This function is also used to designate the tracks used for the rhythm data and chord progression data.

Default part settings

Track	Part	Name on display
1	**POLY 1**	PL1
2	**POLY 2**	PL2
3	**BASS**	BAS
4	**AUTO PLAY CHORD***	APC*
5	**ACCOMP 2**	AC2
6	**ACCOMP 3**	AC3
7	**DRUMS**	DRM
8	**CONTROL**	CTL

*For realtime recording. When step recording: **CHORD** <CHD>.

Procedure to change track assignment (TRACK: PAGE 1)

The procedure below is to change the part corresponding to each track.

1. Press the **SEQUENCER** button to turn it on.

2. Press either ④ button for [TRACK].
- The TRACK ASSIGN display appears.
- The parts assigned to tracks 1~8 are displayed in order from left to right.

```
1:TRACK ASSIGN
<PL1><PL2><BAS><CHD><AC2><AC3><DRM><CTL>
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

3. Select the part you wish to assign with the ①~⑧ buttons.
- The TRACK ASSIGN setting display appears.

```
  TRACK ASSIGN        LOCAL  MIDI    TRACK
TR1  PART=<PL1>[YES]<ON>   OUT= 1CH[INI]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

4. Select the part for the specified track with the ③ buttons.
- Select one of the following parts: **POLY 1** <PL1>, **POLY 2** <PL2>, **BASS** <BAS>, **ACCOMP 1** <AC1>, **ACCOMP 2** <AC2>, **ACCOMP 3** <AC3>, **DRUMS** <DRM>, **CONTROL** <CTL>, **CHORD** <CHD>, **AUTO PLAY CHORD** <APC>, and **RHYTHM** <RHY>.
- The ⑤ buttons can be used to set the LOCAL CONTROL for this track to on or off (refer to page 109), and the ⑦ buttons to select the MIDI channel (refer to page 107).
- You can assign either <CHD> or <APC>, but you cannot assign both.
- Except for the **CONTROL**, **CHORD/AUTO PLAY CHORD** and **RHYTHM** parts, you can assign one part to more than one track. If you attempt to assign the <CTL>, <CHD>/<APC> or <RHY> part to more than one track, the following error message appears.

Example: **RHYTHM** part

```
          Error !!
*** Rhythm track already exists ***
```

5. Press either ④ button for [YES].
- The confirmation display appears.

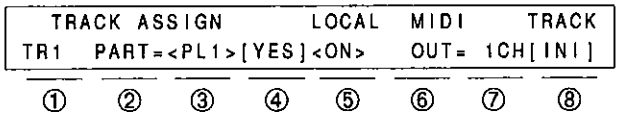
```
TRACK ASSIGN CHANGE(TRACK CLEAR) Sure ?
TR1  PART= RHY [YES] [NO]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Press either ④ for [YES] to program the new setting.
- You can press either ⑤ button for [NO] to cancel the new setting.
- When the TRACK ASSIGN procedure changes only the parts among **POLY 1, 2, BASS, ACCOMP 1, 2, 3** and **DRUMS**, the confirmation display does not appear.

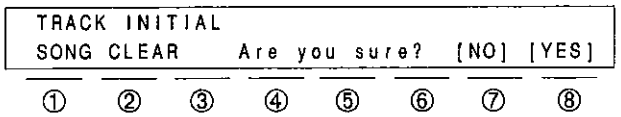
Returning to the original settings

During the TRACK ASSIGN procedure, you can return to the initial (default) track assignment.



Press either ⑧ button for [INI].

- The confirmation display appears.



Press either ⑧ button for [YES] to recall the initial track assignment settings.

- You can press either ⑦ button for [NO] to cancel the initialization procedure.
- The TRACK ASSIGN display can also be found on PAGE 2 of the REC menu, PAGE 3 of the PUNCH menu, and PAGE 2 of the STEP menu.

Editing the recorded performance

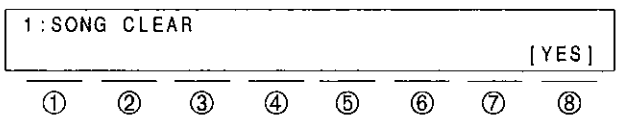
The edit feature allows you to erase or change portions of your performance after it has been recorded in the **SEQUENCER** tracks.

The ED1 menu is used for these procedures.

1. Press the **SEQUENCER** button to turn it on.
   - The SEQUENCER MENU display appears.
2. Press either ⑥ button for [ED1].
3. Use the **PAGE** buttons to access the display for the corresponding function.

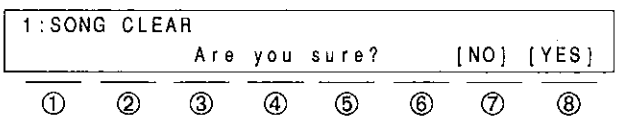
SONG CLEAR (ED1: PAGE 1)

■ To erase the recorded contents of all tracks 1~8.



Press either ⑧ button for [YES]

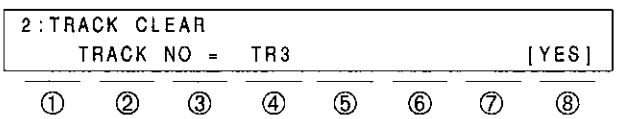
- The display asks if you are sure you wish to clear the tracks.



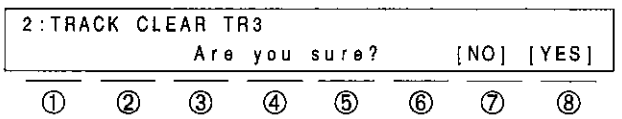
- Pressing either ⑧ button for [YES] erases the contents from all tracks. To cancel the SONG CLEAR procedure, press either ⑦ button for [NO].

TRACK CLEAR (ED1: PAGE 2)

■ To erase the contents of a specific track.



1. Select the track you wish to clear with the ④ buttons.
2. Press either ⑧ button for [YES].
   - The display asks if you are sure you wish to clear the track.



- Pressing either ⑧ button for [YES] erases the contents from the specified track. To cancel the TRACK CLEAR procedure, press either ⑦ button for [NO].

VELOCITY CHANGE (ED1: PAGE 3)

■ Modify the recorded velocity in specific measures of specific tracks.

```
3:VELOCITY CHANGE
 TR3 M 112 L8          <CURRENT>+ 48 [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1. Specify the track with the ① buttons.
- The velocity cannot be changed in a track to which the [CTL], [RHY] or [CHD] part has been assigned.

2. Specify the start point (measure number) of the velocity change with the ② buttons.

3. Specify the duration of the change (number of measures) with the ③ buttons.

4. Select the type of change with the ⑤ and ⑥ buttons.
   CURRENT: The recorded velocity is increased or decreased by a specified amount.
   FLAT: The recorded velocity is set to a specified level.

5. Specify the velocity change value with the ⑦ buttons.
- If CURRENT was selected, specify a change in the velocity from –127~+127.
- If FLAT was selected, specify a velocity within a range of 0~127.

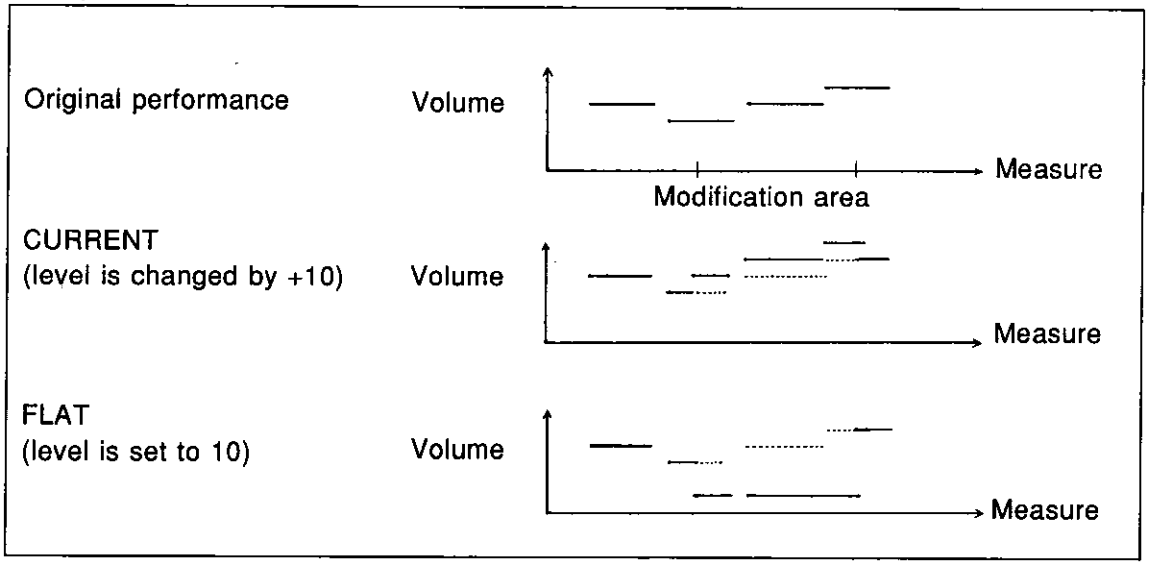
6. Press either ⑧ button for [YES].
- The display asks if you are sure you wish to store the specified velocity.

```
3:VELOCITY CHANGE     Are you sure?
 TR3 M 112 L8   CURRENT + 48  [NO] [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

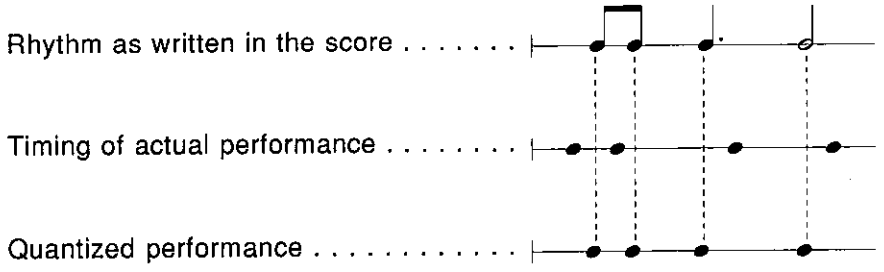
- Press either ⑧ button for [YES] to store the specified velocity. To cancel the VELOCITY CHANGE procedure, press either ⑦ button for [NO].

Example:



QUANTIZE (ED1: PAGE 4)

The quantize function can correct the timing of a performance after it has been recorded. If the rhythm is slightly out of sync or inexact, it will automatically be corrected to the specified quantize level.



■ To quantize the recorded performance in specific measures of a specific track.

```
4:QUANTIZE
 TR2 FROM  M26  L80  ♪          [YES]
 ①   ②    ③    ④   ⑤  ⑥  ⑦   ⑧
```

1. Select the track you wish to modify with the ① buttons.
- A track to which the [CTL], [RHY] or [CHD] part has been assigned cannot be quantized.

2. Specify the first measure to modify with the ③ buttons.

3. Specify the length of the modification (number of measures) with the ④ buttons.

4. Select the desired quantize level with the ⑤ buttons.
- Select from $\overset{3}{\beta}$, β, $\overset{3}{\beta}$, β, $\overset{3}{\beta}$, β, β (A 3 denotes a triplet-type note.)

5. Press either ⑧ button for [YES].
- The display asks if you are sure you wish to quantize the specified measures.

```
4:QUANTIZE          Are you sure?
 TR2 FROM  M26  L80  ♪          [NO] [YES]
 ①   ②    ③    ④   ⑤  ⑥  ⑦   ⑧
```

- Press either ⑧ button for [YES] to quantize the specified measures. To cancel the QUANTIZE procedure, press either ⑦ button for [NO].

TRACK MERGE (ED1: PAGE 5)

■ To merge the recorded contents of two tracks and store in a third track.

```
5:TRACK MERGE
 TR1+ TR2 >TR3                  [YES]
 ①   ②    ③    ④   ⑤  ⑥  ⑦   ⑧
```

1. Select the two tracks you wish to merge with the ① and ② buttons.
- A track to which the [CTL], [RHY] or [CHD] part has been assigned cannot be merged.
- If the part assigned to TR1 is different from the part assigned to TR2, when the parts are merged in TR3, the new track is assigned the same part as TR1.

2. Specify the track number in which to record the merged data with the ③ buttons.

3. Press either ⑧ button for [YES].
- The display asks if you are sure you wish to merge the tracks.

```
5:TRACK MERGE       Are you sure?
 TR1+ TR2 >TR3                  [NO] [YES]
 ①   ②    ③    ④   ⑤  ⑥  ⑦   ⑧
```

- Press either ⑧ button for [YES], and the merge is executed. To cancel the TRACK MERGE procedure, press either ⑦ button for [NO].
- The data is erased from the two source tracks.

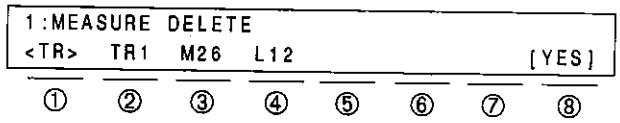
Editing measures

The stored data in the **SEQUENCER** can be erased, edited or transferred measure-by-measure.

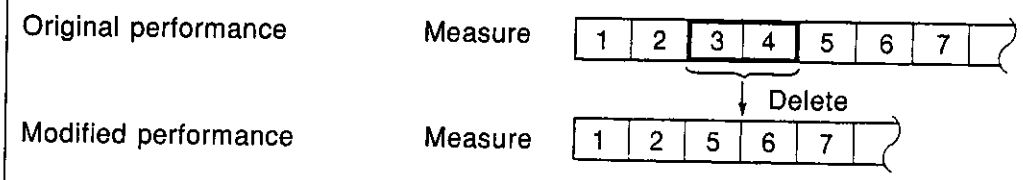
The ED2 menu is used for these procedures.

MEASURE DELETE (ED2: PAGE 1)

You can delete specific measures from the performance. The length of the performance accordingly decreases by the number of deleted measures.



Example: When 2 measures (L=2) beginning with measure 3 (M=3) are deleted.



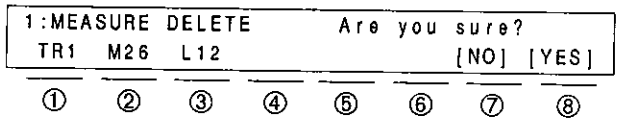
1. Specify the type of delete with the ① buttons.
   <TR> (track): Measures can be deleted from one track at a time.
   <ALL> (all): Measures are deleted from all the tracks at one time.

2. If <TR> was selected in step 1, specify the track you wish to modify with the ② buttons.
   - Measures cannot be deleted from a [RHY] or [CHD] track in which repeat data is recorded.

3. Specify the first measure to delete with the ③ buttons.

4. Specify the length of the deletion (number of measures) with the ④ buttons.

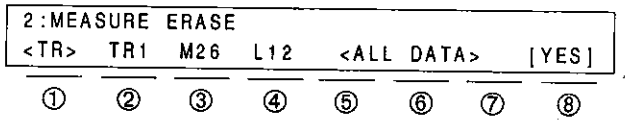
5. Press either ⑧ button for [YES].
   - The display asks if you are sure you wish to delete the measures.



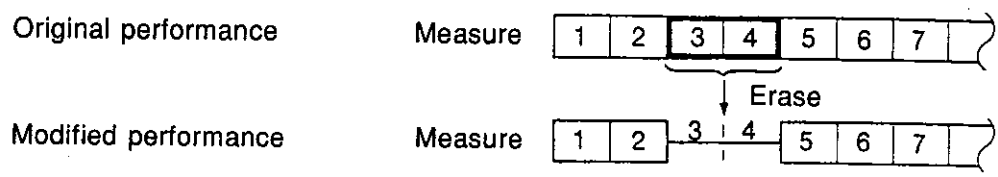
   - Press either ⑧ button for [YES], and the specified measures are deleted. To cancel the MEASURE DELETE procedure, press either ⑦ button for [NO].

MEASURE ERASE (ED2: PAGE 2)

The recorded contents of specific measures are erased from the performance, but the length of the performance does not change.



Example: When 2 measures (L=2) beginning with measure 3 (M=3) are erased.



1. Specify the type of erase with the ① buttons.
   <TR> (track): Measures can be erased from one track at a time.
   <ALL> (all): Measures are erased from all the tracks at one time.

2. If <TR> was selected in step 1, specify the track you wish to modify with the ② buttons.
- Measures cannot be erased from a [RHY] or [CHD] track in which repeat data is recorded.

3. Specify the first measure to erase with the ③ buttons.

4. Specify the length of the erasure (number of measures) with the ④ buttons.

5. Specify the type of data to be erased with the ⑥ buttons.
   <ALL>: All data is erased.
   <NOTE>: Only note data (pitch, velocity, note length, gate time) is erased.
   <CTL>: Only control data (volume, effect and other panel settings) is erased.

6. Press either ⑧ button for [YES].
- The display asks if you are sure you wish to erase the contents from the measures.

```
2:MEASURE ERASE          Are you sure?
 TR1  M26  L12           ALL DATA [NO] [YES]
 ①    ②    ③    ④      ⑤    ⑥    ⑦    ⑧
```

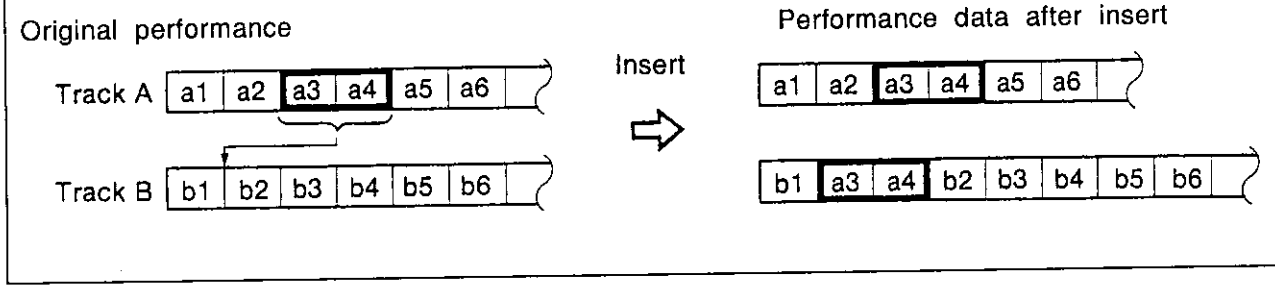
- Press either ⑧ button for [YES], and the contents are erased from the specified measures. To cancel the MEASURE ERASE procedure, press either ⑦ button for [NO].

MEASURE INSERT (ED2: PAGE 3)

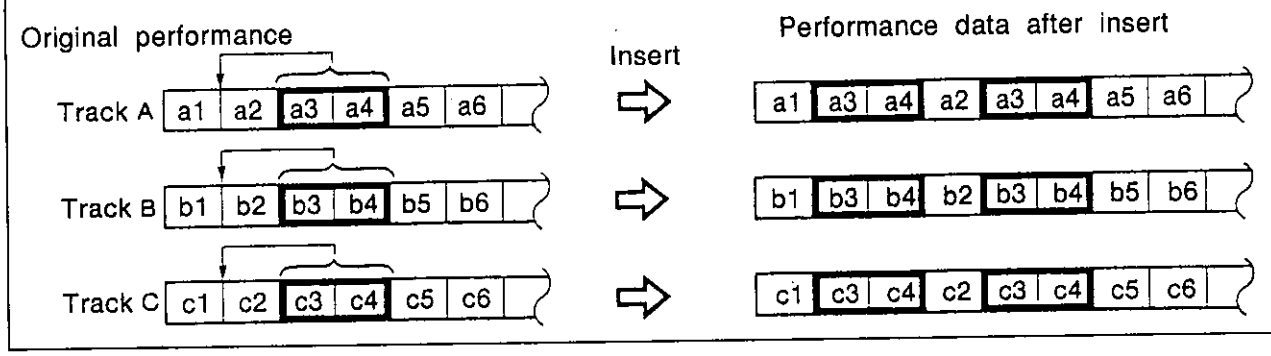
When measures are inserted in a track, the length of the destination track increases by the number of inserted measures, but the source track remains unchanged.

```
3:MEASURE INSERT
<TR>  TR2  M12  L6   ->  TR2  M20  [YES]
 ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

Example: When 2 measures from track A, beginning with measure 3, are inserted in track B, from the beginning of measure 2.


Original performance
Track A
a1 a2 a3 a4 a5 a6
Track B
b1 b2 b3 b4 b5 b6
Insert
Performance data after insert
a1 a2 a3 a4 a5 a6
b1 a3 a4 b2 b3 b4 b5 b6

Example: When 2 measures beginning with measure 3 are inserted to the same track from the beginning of measure 2.


Original performance
Track A
a1 a2 a3 a4 a5 a6
Track B
b1 b2 b3 b4 b5 b6
Track C
c1 c2 c3 c4 c5 c6
Insert
Performance data after insert
a1 a3 a4 a2 a3 a4 a5 a6
b1 b3 b4 b2 b3 b4 b5 b6
c1 c3 c4 c2 c3 c4 c5 c6

1. Specify the type of insert with the ① buttons.
   <TR> (track): Measures can be inserted in one track at a time.
   <ALL> (all): Measures are inserted in all the tracks at one time.

2. If <TR> was selected in step 1, specify the source track (track A) with the ② buttons.
- Measures in a [CTL], [RHY] or [CHD] part track can be inserted only in the same track.
- Measures cannot be inserted in a [RHY] or [CHD] track in which repeat data is recorded.

3. Specify the first measure from which to copy with the ③ buttons.

4. Specify the number of measures to copy with the ④ buttons.

5. If <TR> was selected in step 1, specify the destination track (track B) with the ⑥ buttons.

6. Specify the insert point with the ⑦ buttons.

7. Press either ⑧ button for [YES].
- The display asks if you are sure you wish to insert the measures.

```
3:MEASURE INSERT        Are you sure?
 TR2  M12  L6   ->   TR2  M20 [NO] [YES]
 ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

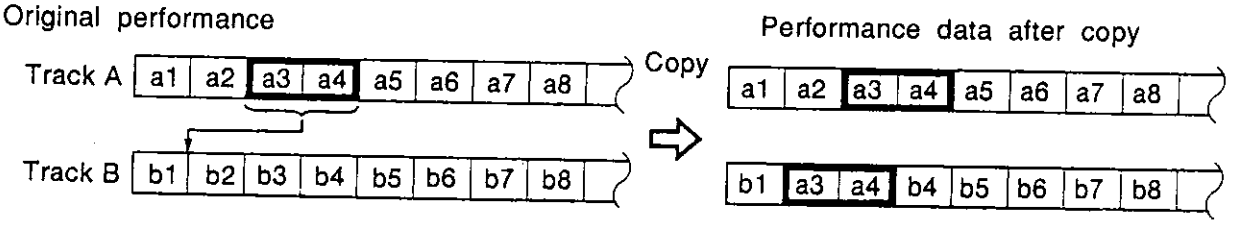
- Press either ⑧ button for [YES], and the specified measures are inserted. To cancel the MEASURE INSERT procedure, press either ⑦ button for [NO].

MEASURE COPY (ED2: PAGE 4)

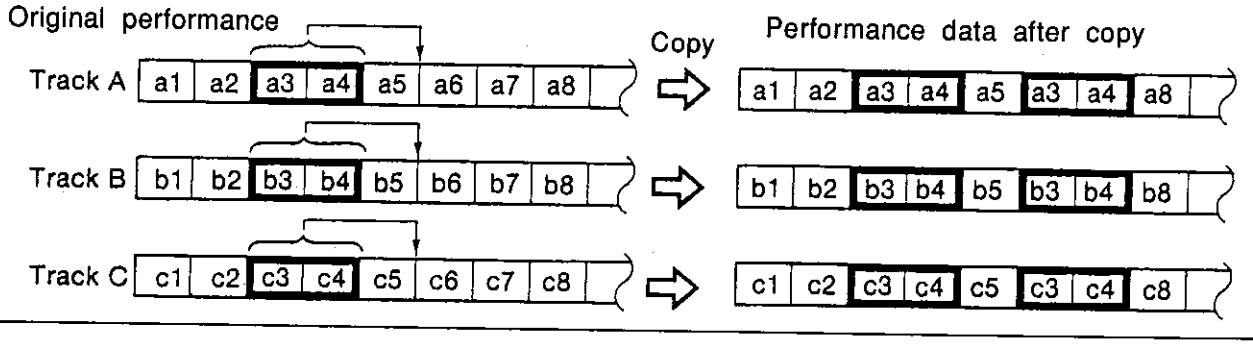
Copy measures from one track to another. On the destination track, the new data replaces the current measure contents.

```
4:MEASURE COPY
<TR>  TR1  M25  L4   ->  TR1  M25 [YES]
 ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

Example: When 2 measures from track A beginning with measure 3 are copied to track B beginning with measure 2.


Original performance
Performance data after copy
Copy
Track A
a1 a2 a3 a4 a5 a6 a7 a8
Track B
b1 b2 b3 b4 b5 b6 b7 b8
a1 a2 a3 a4 a5 a6 a7 a8
b1 a3 a4 b4 b5 b6 b7 b8

Example: When 2 measures beginning with measure 3 are copied to the same track beginning with measure 6.


Original performance
Performance data after copy
Copy
Track A
a1 a2 a3 a4 a5 a6 a7 a8
Track B
b1 b2 b3 b4 b5 b6 b7 b8
Track C
c1 c2 c3 c4 c5 c6 c7 c8
a1 a2 a3 a4 a5 a3 a4 a8
b1 b2 b3 b4 b5 b3 b4 b8
c1 c2 c3 c4 c5 c3 c4 c8

1. Select the type of copy with the ① buttons.
   <TR> (track): Measures can be copied to one track at a time.
   <ALL> (all): The measures are copied to all tracks at the same time.

2. If <TR> was selected in step 1, specify the source track (track A) with the ② buttons.
- Measures in a [CTL], [RHY] or [CHD] part track can be copied only to the same track.
- Measures cannot be copied to a [RHY] or [CHD] track in which repeat data is recorded.

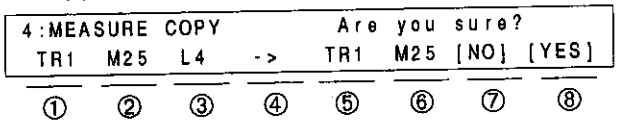
3. Specify the first measure from which to copy with the ③ buttons.

4. Specify the number of measures to copy with the ④ buttons.

5. If <TR> was selected in step 1, specify the destination track (track B) with the ⑥ buttons.

6. Specify the beginning of the copy point with the ⑦ buttons.

7. Press either ⑧ button for [YES].
- The display asks if you are sure you wish to copy the measures to the specified tracks.



- Press either ⑧ button for [YES], and the specified measures are copied to the specified tracks. To cancel the MEASURE COPY procedure, press either ⑦ button for [NO].

Note concerning the SEQUENCER

When many tracks are used at one time, or when the number of notes stored in a track is extremely large, the timing may lag during playback.
If this occurs, decrease the number of tracks used at the same time, or use the TRACK CLEAR procedure to erase the contents of those tracks not being used for playback.

Error messages

The following messages on the display indicate that a mistake has been made in using the **SEQUENCER** functions.

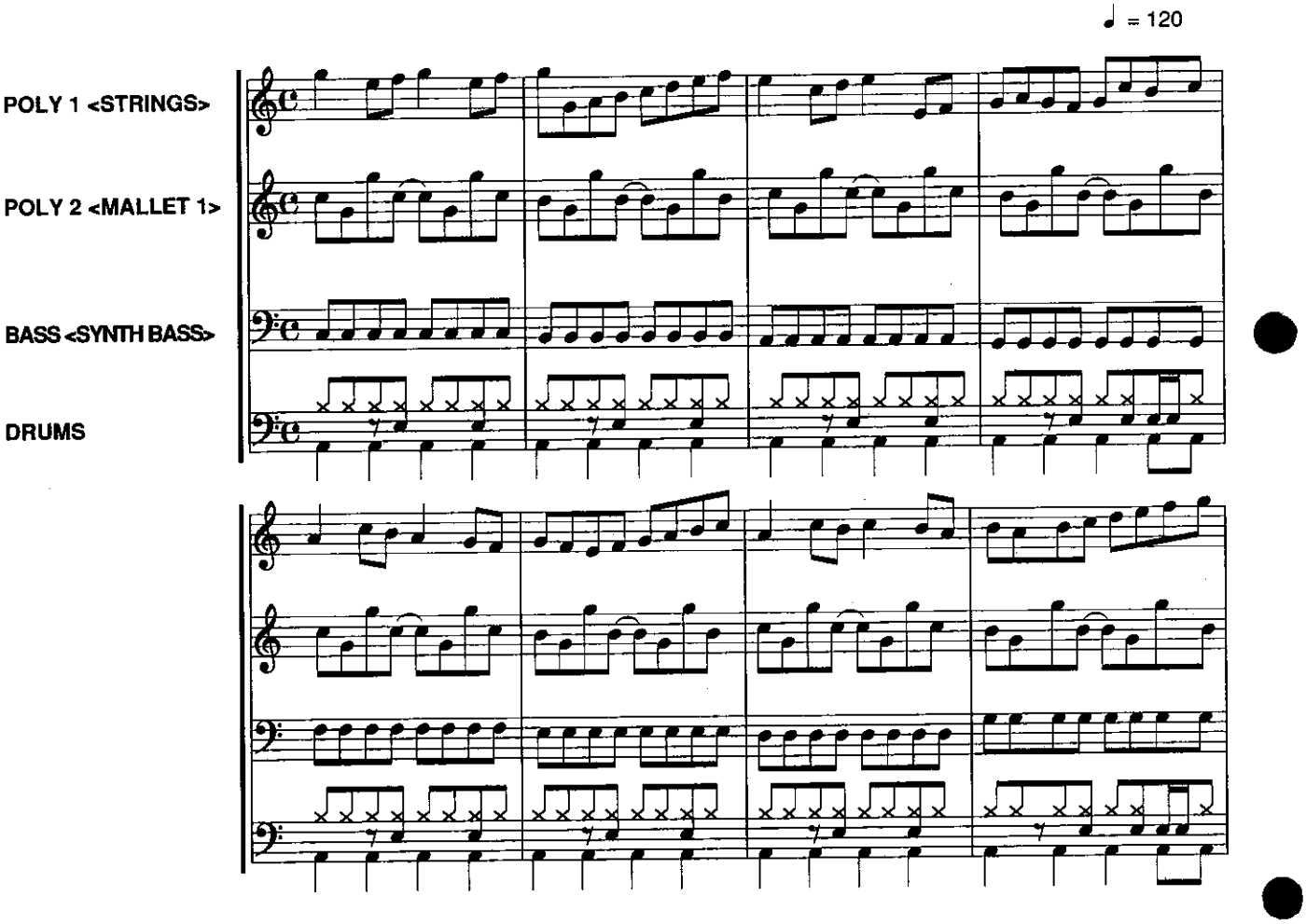
Error !! *** Track empty ***	No recorded data in a track you attempted to edit.
Error !! ** Only melody tracks can be changed **	You attempted to change the velocity in a track to which the [CTL], [RHY] or [CHD] part is assigned.
Error !! * Only melody tracks can be quantized *	You attempted to quantize a track to which the [CTL], [RHY] or [CHD] part is assigned.
Delete impossible !! *** Time signature mismatch ***	You attempted to delete rhythm data (from the [RHY] part track) which would change the time signature of the recorded performance.
Insert impossible !! *** Time signature mismatch ***	You attempted to insert rhythm data (in the [RHY] part track) which would change the time signature of the recorded performance.
*** Measure error !! ***	You attempted to delete, erase or insert a measure in which no data is recorded.
Error !! *** Repeat exists ***	You attempted to delete, erase, insert or copy a [RHY] or [CHD] part track in which a repeat code is recorded.
Error !! *** Only melody tracks can be merged ***	You attempted to merge a track to which the [CTL], [RHY] or [CHD] part is assigned.
Error !! ** Only melody tracks can be inserted **	You attempted to insert measures from a [CTL], [RHY] or [CHD] part track to a different track.
Error !! *** Only melody tracks can be copied ***	You attempted to copy measures from a [CTL], [RHY] or [CHD] part track to a different track.
*** Seq data error !! ***	The data cannot be read.

"Completed" message

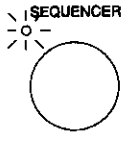
The following message on the display indicates that the current procedure has been successfully executed.

*** Completed !! ***

An example of storing in the SEQUENCER

Follow these step-by-step instructions to record the following example in the **SEQUENCER** with the multi-track recording method.

Preparing to record

1. Turn on the **SEQUENCER** button.

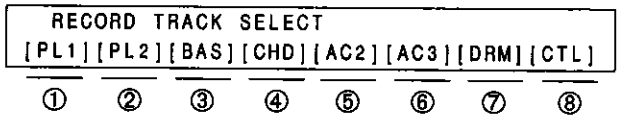


- The SEQUENCER MENU appears on the display.

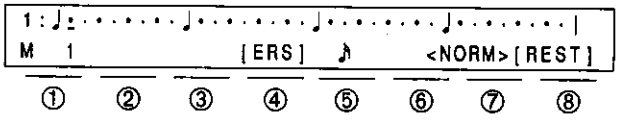
2. If there is previously stored data in the **SEQUENCER**, press a ⑥ button for [ED1], and follow the SONG CLEAR procedure. (Refer to page 84.)

Record the DRUMS part with step recording

1. Turn on the **SEQUENCER** button, and on the SEQUENCER MENU display, press either ⑤ button for [STEP].
- The RECORD TRACK SELECT display appears.



2. Press either ⑦ button for [DRM].
- The display changes to the step record display.



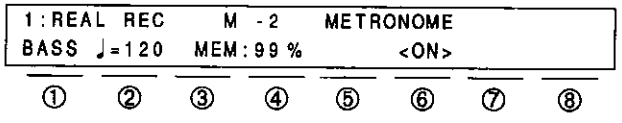
3. Move the cursor with the **TRANSPOSE** buttons to the position you wish to record a note. Play the **KEYBOARD PERCUSSION** key to store the note.
- If you make a mistake, press either ④ button for [ERS]. The stored data at the cursor position will be erased.

Record the BASS part with realtime recording

1. Press the **MENU** button.
- The SEQUENCER MENU display appears.

2. Press either ① button for [REC].
- The RECORD TRACK SELECT display appears.

3. Press either ③ button for [BAS].
- The display changes to the realtime record display.



4. Use the **TEMPO/PROGRAM** dial to set the tempo to 120. Set the METRONOME to <ON> with the ⑥ buttons.

5. In the **SOUND SELECT** matrix, select **SYNTH BASS**. Turn on the **SOUND VARIATION 1** button.

6. Press the **START/STOP** button. The **DRUMS** part which you just recorded begins to play back. Play the **BASS** part in time with this.
- When you have completed recording the **BASS** part, press the **SEQUENCER** button to turn it off.

Record the POLY 1 and POLY 2 parts with realtime recording

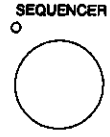
The other parts are recorded in the same way as the **BASS** part. The steps are as follows.

1. Turn on the **SEQUENCER** button, and on the SEQUENCER MENU display, press either ① button for [REC].

2. Turn on the **SEQUENCER** part button for the part you are going to record.

3. Select the sound from the **SOUND SELECT** matrix, and turn on the desired **SOUND VARIATION** button.

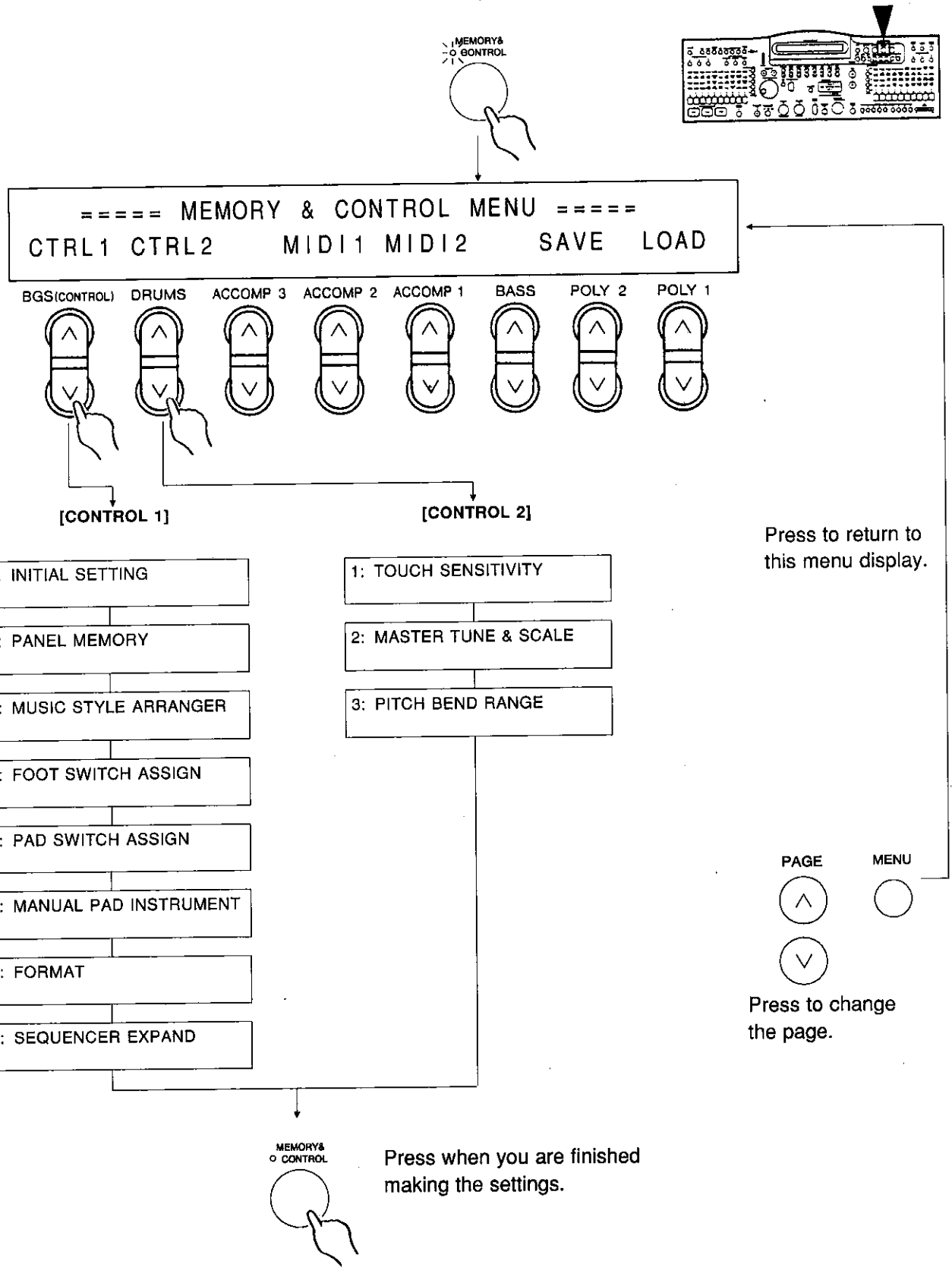
4. Press the **START/STOP** button, and play the part in time with the previously recorded parts.
- When you have completed recording all the parts, press the **SEQUENCER** button to turn it off.



Part VII Control

The "control" mode is used to adjust and regulate the various functions related to the operation of this Keyboard. Use this mode to adjust the functions to match your particular needs in order to increase your expressive power.

Outline of the control functions

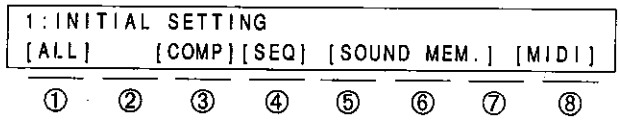

MEMORY& CONTROL
===== MEMORY & CONTROL MENU =====
CTRL1 CTRL2 MIDI1 MIDI2 SAVE LOAD
BGS(CONTROL) DRUMS ACCOMP 3 ACCOMP 2 ACCOMP 1 BASS POLY 2 POLY 1
[CONTROL 1]
[CONTROL 2]
1: INITIAL SETTING
2: PANEL MEMORY
3: MUSIC STYLE ARRANGER
4: FOOT SWITCH ASSIGN
5: PAD SWITCH ASSIGN
6: MANUAL PAD INSTRUMENT
7: FORMAT
8: SEQUENCER EXPAND
1: TOUCH SENSITIVITY
2: MASTER TUNE & SCALE
3: PITCH BEND RANGE
Press to return to this menu display.
PAGE
MENU
Press to change the page.
MEMORY& CONTROL
Press when you are finished making the settings.

Setting the control functions

Set the necessary functions in CTRL1 and CTRL2.

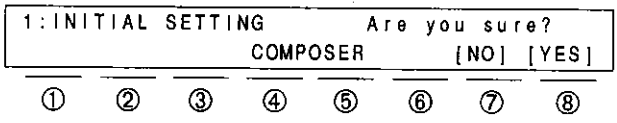
INITIAL SETTING (CTRL1: PAGE 1)

The settings and memory contents of the Keyboard can be initialized.



1. Select the functions you wish to initialize.
   - ① [ALL]: Initializes all settable functions.
   - ③ [COMP]: Initializes the **COMPOSER** memories.
   - ④ [SEQ]: Initializes the memory contents of all tracks.
   - ⑥ [SOUND MEM.]: Resets the **SOUND SELECT** storable memories of all parts to their factory-preset condition.
   - ⑧ [MIDI]: Resets all MIDI settings to their initial settings.

- The display asks if you are sure you wish to initialize the specified settings.

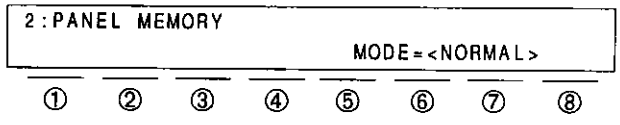


2. Press either ⑧ button for [YES].

- To cancel the reset procedure, press either ⑦ button for [NO].

PANEL MEMORY (CTRL1: PAGE 2)

Select the range of panel settings which are stored in the **PANEL MEMORY**.



Select the range with the ⑦ buttons.

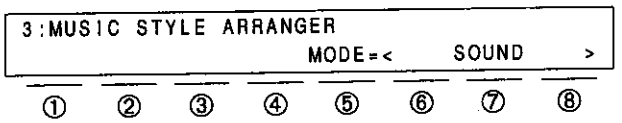
<NORMAL>: The sounds, effects and volumes for each part, the **CONDUCTOR** status, the keyboard split point, the **AUTO PLAY CHORD** status, **DIGITAL REVERB** settings and on/off status, and the **TECHNI-CHORD** status are all stored in the **PANEL MEMORY**.

<EXPAND>: In addition to the NORMAL mode settings, the **RHYTHM SELECT** selection, the **TRANSPOSE** status, the tempo setting, **BGS** status, the **DYNAMIC ACCOMP** on/off status, and the **MANUAL PERCUSSION PAD** settings are stored in the **PANEL MEMORY**.

- This page can also be accessed by pressing the **SET** button until the display changes. A few seconds after the settings are made, the display returns to the normal performance display.

MUSIC STYLE ARRANGER (CTRL1: PAGE 3)

You can define which panel settings change when the **MUSIC STYLE ARRANGER** is used.



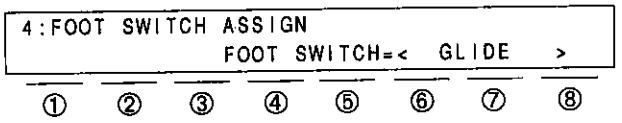
Select the mode with the ⑦ buttons.

<SOUND>: Only the sound changes when a **FILL IN** button is pressed during a performance.
<RHYTHM>: Only the rhythm changes.
<SOUND&RHYTHM>: Both the sound and rhythm change.
<P. MEM>: The **PANEL MEMORY** number changes.

- This page can also be accessed by pressing the **MUSIC STYLE ARRANGER** button until the display changes. A few seconds after the settings are made, the display returns to the normal performance display.

FOOT SWITCH ASSIGN (CTRL1: PAGE 4)

Assign the desired function to the foot switch (sold separately). The specified function can then be controlled with the foot switch.

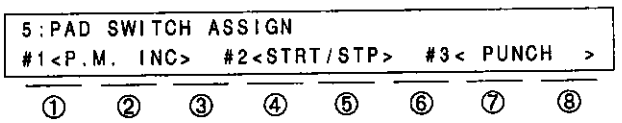


Select the desired function for the foot switch with the ⑦ buttons.

<P. MEM1~8>: **PANEL MEMORY** on
<P.M. INC>: Increment **PANEL MEMORY** selection number by 1
<STRT/STP>: **START/STOP** on/off
<FILL 1, 2>: **FILL IN 1, 2** on
<ENDING>: **INTRO & ENDING** on
<SUSTAIN>: **SUSTAIN** on/off
<GLIDE>: Glide on/off
<TECH-CD>: **TECHNI-CHORD** on/off
<PAD 1, 2, 3>: **PAD** on
<PUNCH>: Punch in/punch out

PAD SWITCH ASSIGN (CTRL1: PAGE 5)

Assign the desired functions to the **PAD** buttons of the **MANUAL PERCUSSION**. The specified function can then be controlled with the respective **PAD** button.

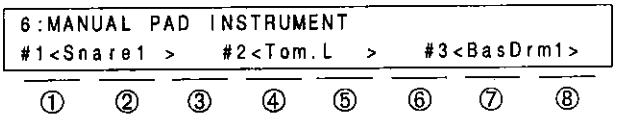


Select the function to assign to **PAD 1** with the ① or ② buttons, to **PAD 2** with the ④ or ⑤ buttons, and to **PAD 3** with the ⑦ or ⑧ buttons.

<OFF>: The **PAD** button works normally.
<P. MEM1~8>: **PANEL MEMORY 1~8** on
<P.M. INC> Increment **PANEL MEMORY** selection by 1
<STRT/STP> **START/STOP** on/off
<FILL 1, 2> **FILL IN 1, 2** on
<ENDING>: **INTRO & ENDING** on
<SUSTAIN>: **SUSTAIN** on/off
<GLIDE>: Glide on/off
<TECH-CD>: **TECHNI-CHORD** on/off
<PUNCH>: Punch in/punch out

MANUAL PAD INSTRUMENT (CTRL1: PAGE 6)

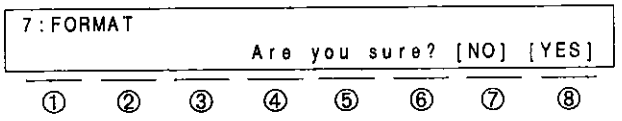
Assign the desired **KEYBOARD PERCUSSION** sound to the **PAD** buttons of the **MANUAL PERCUSSION**.



The procedure is the same as the **SOUND** button, SETTING menu, PAGE 5 procedure. (Refer to page 43.)

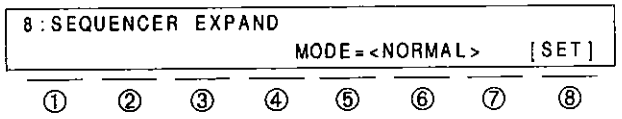
FORMAT (CTRL1: PAGE 7)

The procedure to format a memory disk is explained in Part VIII: External memory, on page 101.



SEQUENCER EXPAND (CTRL1: PAGE 8)

The **SEQUENCER** memory can be expanded, by committing the **COMPOSER** memory to the **SEQUENCER**. Note that when the **SEQUENCER** memory is expanded, it is no longer possible to use the **COMPOSER**.



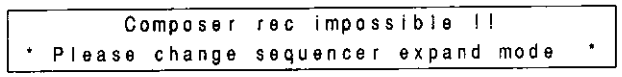
1. Select the mode with the ⑥ buttons.

<NORMAL>: This is the normal setting. The **SEQUENCER** memory is approximately 4900 notes.
<EXPAND>: The **SEQUENCER** memory is expanded to about 6600 notes.

2. Press either ⑧ button for [SET].
- The confirmation display appears.

3. Press either ⑧ button for [YES].
- Press either ⑦ button for [NO] to cancel the mode change.

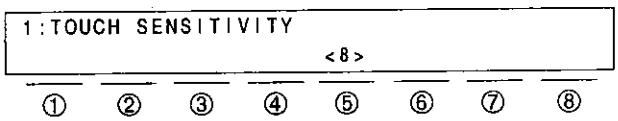
- When the mode is changed from <NORMAL> to <EXPAND>, any recorded contents of the **SEQUENCER** and the **COMPOSER** are erased, and the **COMPOSER** cannot be used. In this case, the following error message appears on the display when the **COMPOSER** button is pressed.



- If a performance which was saved to a disk when the **SEQUENCER** mode was set to <EXPAND> is loaded to the KN1000 whose **SEQUENCER** mode is set to <NORMAL>, the KN1000's **COMPOSER** contents will be erased. (An explanation of saving and loading to a disk can be found in Part VIII: External memory, on page 102.)

TOUCH SENSITIVITY (CTRL2: PAGE 1)

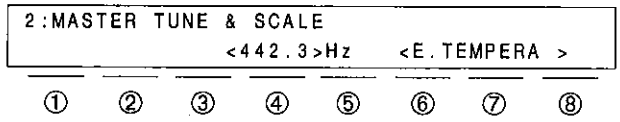
Set the degree of touch sensitivity (touch response) for the keyboard.



Specify the degree of touch sensitivity with the ⑤ buttons.
- Specify a value from 0~9. The larger the number, the greater the change in volume corresponding to how hard or softly the keyboard is played.

MASTER TUNE & SCALE (CTRL2: PAGE 2)

"Tune" is used to fine-tune the pitch of the entire instrument. This is convenient when playing with other instruments. You can also select from two types of tuning with the "scale" function.

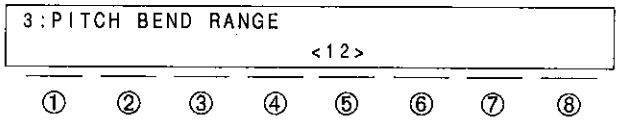


1. Adjust the pitch with the ④ buttons.
- The pitch is adjustable within a range of 427.3 to 452.6 Hz.
- The decimal can be set to 0, 3 or 6.

2. Select the type of tuning with the ⑦ buttons.
<E. TEMPERA>: One octave is divided into pitches of 12 equally spaced intervals.
<PIANO TUNE>: Standard acoustic piano tuning, in which the lower pitches are tuned slightly lower and the higher pitches are tuned slightly higher.

PITCH BEND RANGE (CTRL2: PAGE 3)

Set the pitch range when the **PITCH BEND** wheel is used.

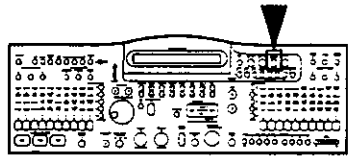


Specify the range with the ⑤ buttons.
- Specify a range from 1~12. The higher the number, the greater the change in pitch when the **PITCH BEND** wheel is operated.

Part VIII External memory

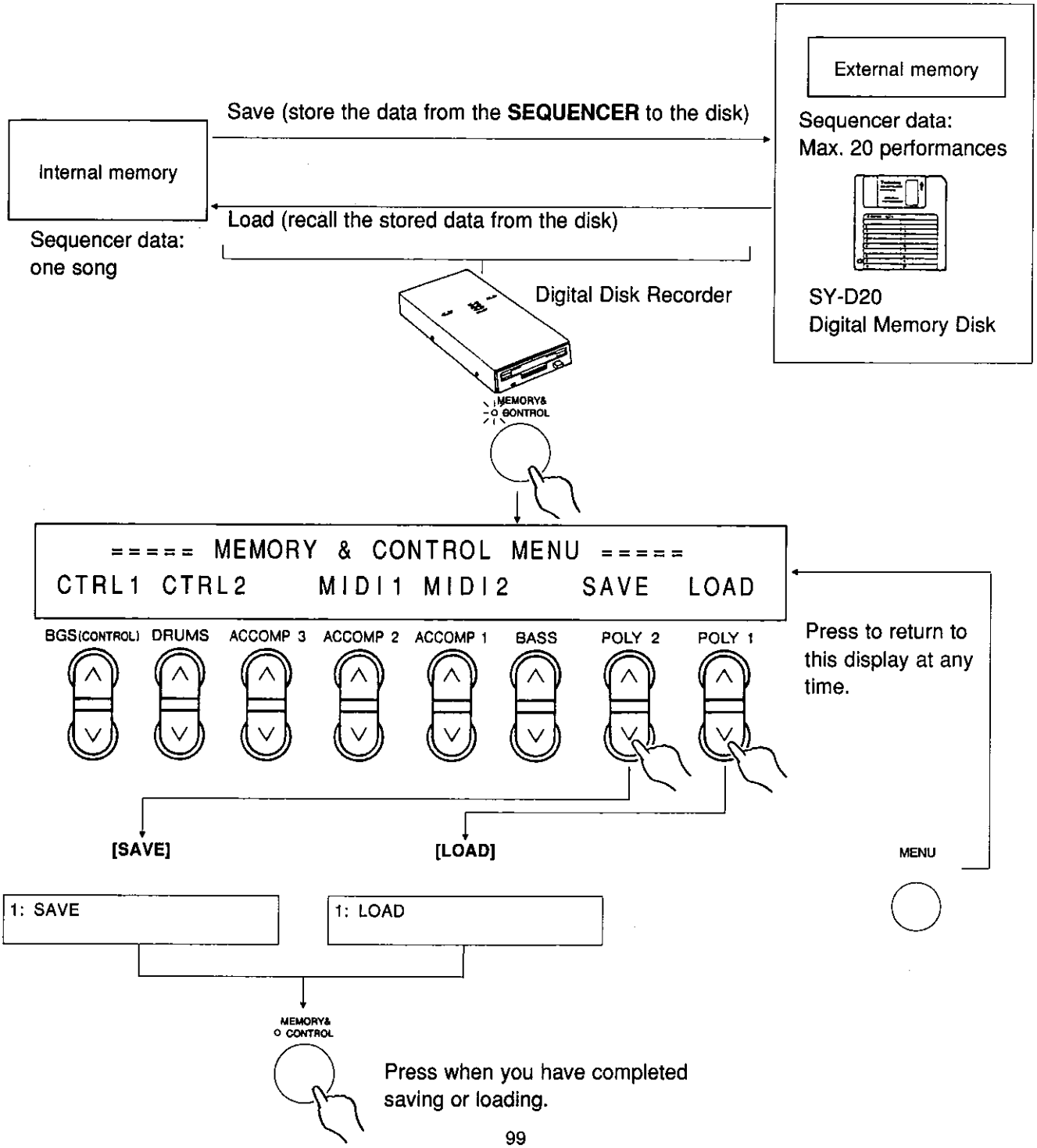
With the separately sold Digital Disk Recorder, the performance data you stored in the **SEQUENCER** can be stored in an SY-D20 Digital Memory Disk.

Outline of Digital Disk Recorder (option*)



*Already installed in some areas.

The Digital Disk Recorder allows you to record (save) various function settings and the stored contents of the **COMPOSER**, etc. on a disk. When you recall (load) the data and play it back, you hear exactly the same performance you recorded. Only one song's performance can be stored in the **SEQUENCER** at any time. So in order to record a new song, the previous contents must first be erased. On one disk, however, you can store the data for up to 20 songs, which means you can keep a whole library of your performances.


External memory
Save (store the data from the SEQUENCER to the disk)
Internal memory
Sequencer data:
Max. 20 performances
Load (recall the stored data from the disk)
Sequencer data:
one song
Digital Disk Recorder
SY-D20
Digital Memory Disk
MEMORY& CONTROL
===== MEMORY & CONTROL MENU =====
CTRL1 CTRL2 MIDI1 MIDI2 SAVE LOAD
BGS(CONTROL) DRUMS ACCOMP 3 ACCOMP 2 ACCOMP 1 BASS POLY 2 POLY 1
Press to return to this display at any time.
[SAVE]
[LOAD]
MENU
1: SAVE
1: LOAD
MEMORY& CONTROL
Press when you have completed saving or loading.

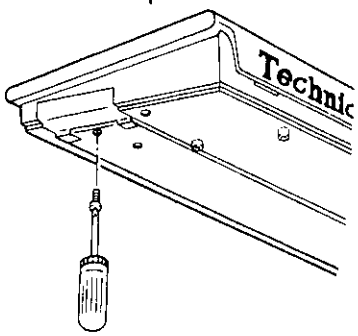
Installing the Digital Disk Recorder in your Keyboard

Install the SY-FD20 Digital Disk Recorder (sold separately) in your Keyboard.

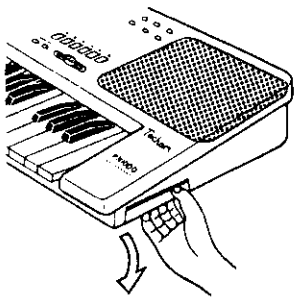
Installation procedures

Make sure that the power to the Keyboard is turned off.

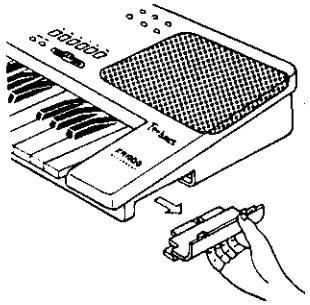
1. Remove the cover from the connector unit beneath the keyboard by first removing the screw with a cross-point screwdriver.



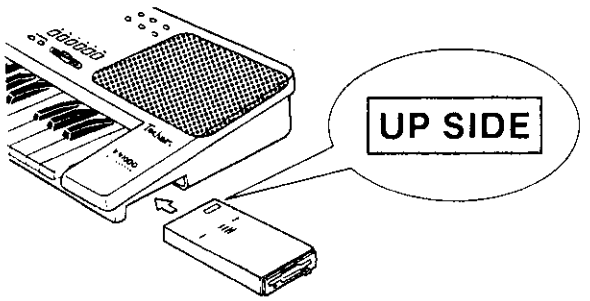
2. Use the gap at the top of the cover as a finger-hold to apply downward pressure.



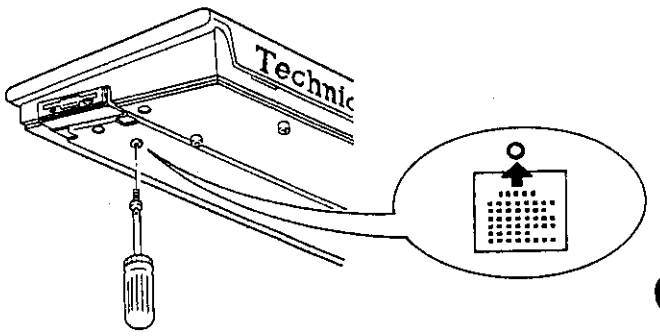
3. Pull the cover out horizontally and remove it from the Keyboard.



4. Insert the Digital Disk Recorder and push it in firmly and completely.

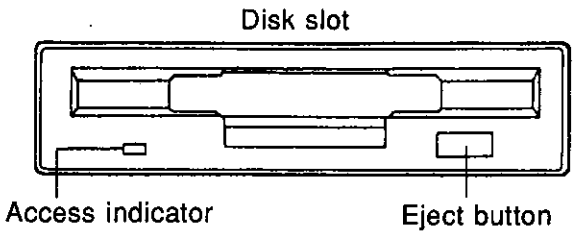


5. Secure the Digital Disk Recorder to the Keyboard with the screw you removed in step 1.



Note: To affix the Digital Disk Recorder, the same screw which was used to affix the cover must be used (in the place indicated by the arrow). Use of a different screw may result in malfunction of or damage to the Digital Disk Recorder.

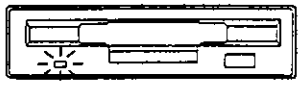
Main parts of the Digital Disk Recorder



Eject button:
Press to remove the disk from the Digital Disk Recorder.

Access indicator:
Lights when data is being loaded from or saved to a disk.

- To prevent data loss, do not remove the disk from the Digital Disk Recorder or turn off the power when the access indicator is lit.

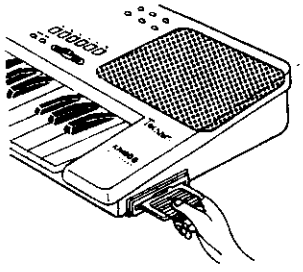


Disk format (CTRL1: PAGE 7)

New floppy disks can be used only after they have been formatted. Follow the procedure below to format a new disk or erase the contents of a recorded disk.

- This procedure clears the entire contents of the disk.
- Reformat a disk if it cannot be saved to or loaded from properly because of exposure to a magnetic field.
- If using commercially available floppy disks other than the SY-D20 Digital Memory Disk, be sure to use 3.5 inch 2DD (double-sided, double-density, double-track) floppy disks.

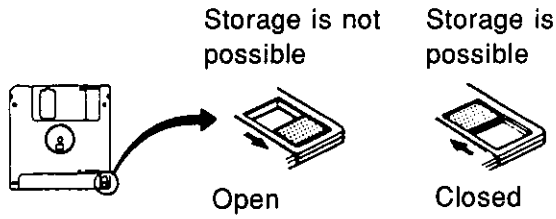
1. Insert the disk into the Digital Disk Recorder slot as shown in the illustration. Push it all the way in until you hear a click.



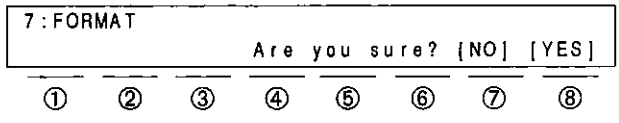
2. Press the **MEMORY & CONTROL** button to turn it on.

3. On the MEMORY & CONTROL MENU display, press either ① button to select [CTRL1].

Note: The disk is provided with a write protect window. To format the disk, the window must be closed, as illustrated.



4. Use the **PAGE** buttons to select the 7: FORMAT display.



5. Press either ⑧ button for [YES].
- To cancel the disk format procedure, press either ⑦ button for [NO].
- Disk formatting begins. "FORMATTING" appears on the display while the disk is being formatted. Formatting takes approximately one minute.
- When formatting is finished, "FORMAT COMPLETED!" is shown on the display.

Saving a performance

Use the Digital Disk Recorder to save a performance stored in the **SEQUENCER** on a disk. You can store up to 20 complete performances on one disk.

Save procedure (SAVE: PAGE 1)

Follow the procedure below to save the song on a disk.

- When a performance is saved, the various panel settings and function settings are saved along with the performance.

1. Store a performance in the **SEQUENCER**.

2. Insert a formatted Memory Disk into the slot of the Digital Disk Recorder.

3. Press the **MEMORY & CONTROL** button to turn it on.
- The MEMORY & CONTROL MENU appears on the display.

```
===== MEMORY & CONTROL MENU =====
CTRL1 CTRL2    MIDI1 MIDI2    SAVE  LOAD
  ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

4. Press either ⑦ button to select [SAVE].
- The display changes to the following.

```
1:SAVE   NAME
     01:_____  Are you sure? [NO] [YES]
  ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

5. Assign a song number to the tune you are storing by using the ② buttons.
- Select a song number from 01~20.
- The **TEMPO/PROGRAM** dial can also be used to select the song number.

6. Assign a name to the song.
- Use the **TRANSPOSE** buttons to move the cursor to the left or right, and the ③ buttons to select the alphanumeric characters. The name may contain up to 6 characters.
- The **TEMPO/PROGRAM** dial can be used to select the alphanumeric characters after a ③ button has been pressed once.

7. Press either ⑧ button for [YES].
- To cancel the save procedure, press either ⑦ button for [NO].
- "SAVING" appears on the display while the song is being saved to the disk.
- At this time, if you specified in step 5 a song number in which a tune is already stored, the "SONG OVER WRITE OK?" message appears. Pressing either ⑧ button for [YES] will save the new tune in the song number and erase the previously stored song. If you do not want to erase the previously stored song, press either ⑦ button for [NO] and select a different song number.
- When the song has been saved on the disk, "SAVE COMPLETED!" is shown on the display.

Loading the stored performance

You can recall (load) the performance you saved on the disk to the Keyboard's **SEQUENCER**.

Load procedure (LOAD: PAGE 1)

Follow the procedure below to load a song from the disk.

The load procedure causes any data which is currently stored in the **SEQUENCER** memory to be erased.

1. Insert the disk with the stored song into the Digital Disk Recorder.

2. Press the **MEMORY & CONTROL** button to turn it on.
- The MEMORY & CONTROL MENU appears on the display.

```
===== MEMORY & CONTROL MENU =====
CTRL1 CTRL2    MIDI1 MIDI2    SAVE  LOAD
  ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

3. Press either ⑧ button to select [LOAD].
- The display changes to the following.

```
1:LOAD   NAME
     01:_____  Are you sure? [NO] [YES]
  ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

4. Specify the number of the song you wish to recall from the disk with the ② or ③ buttons.
- The **TEMPO/PROGRAM** dial can also be used to select the song number.

5. Press either ⑧ button for [YES].
- To cancel the load procedure, press either ⑦ button for [NO].
- "LOADING" appears on the display while the song is being copied to the **SEQUENCER** memory. At this time, if there is no tune stored in the song number specified in step 4, the "SONG NOT FOUND!" message appears and the previous display returns.
- When the song has been loaded in the memory, "LOAD COMPLETED!" appears on the display.
- The following error display appears if the **COMPOSER** memory becomes full while the song is being loaded.

```
Error !!
*** Composer memory full ***
```

6. Press the **START/STOP** button.

♪ The recalled song begins to play automatically.

MEDLEY PLAY (SEQUENCER, PLAY: PAGE 2)

You can specify continuous automatic playback of songs recorded on a disk.

1. Insert the disk into the Digital Disk Recorder.

2. Press the **SEQUENCER** button to turn it on.

3. Press either ⑧ button to select [PLAY], then use the **PAGE** buttons to select 2: MEDLEY PLAY.

```
2:MEDLEY PLAY    FROM     TO
<OFF>            SONG 2   SONG15
  ①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧
```

4. Use the ⑤ buttons to specify the number of the first song you wish to have played, and the ⑦ buttons for the number of the last song.

5. Press either ① button.

♪ The display at ① changes to <ON>. The songs are repeatedly played back in order from the range you specified in step 4.
- If you press the **START/STOP** button during medley play, the song currently playing will stop and playback continues from the next recorded song on the disk.

6. To stop medley play, press either ① button to select <OFF>.

7. Press the **SEQUENCER** button to turn it off.

Precautions to take when handling a disk

■ Do not open the shutter and touch the recording surface of the disk.
- Fingerprints on the recording surface will gather dust and damage the disk.

■ Do not place heavy objects on the disk or bend, throw or drop it.
- The disk may become deformed or damaged.

■ Do not bring the disk near radios, TVs, or other devices that generate a magnetic field.
- This could cause the contents to be erased or generate errors.

■ Never use or store the disk in places where it may be subjected to direct sunlight, dust, high temperatures, or high humidity.

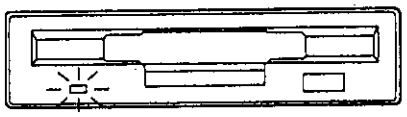
■ Do not use a disk that is wet or has eraser crumbs or metal powder on it.

■ Do not disassemble the disk.

■ Do not use thinner, alcohol or freon to clean the disk.

■ After use, be sure to store the disk in its case.

Warning:
To prevent data loss, do not remove the disk from the Digital Disk Recorder or turn off the power when the access indicator is lit.

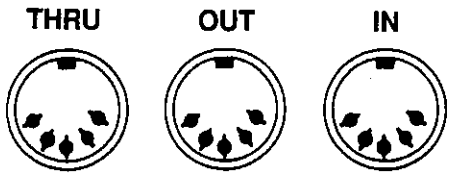


Part IX MIDI

What is MIDI?

MIDI (Musical Instrument Digital Interface) is the international standard for digital communication of electronic musical instrument data. This means that any equipment which has a MIDI terminal—such as electronic musical instruments and personal computers—can easily exchange digital data with other MIDI equipment without resorting to complicated conversions or connections.

About the MIDI terminals



IN: The terminal by which this instrument receives data from other equipment.

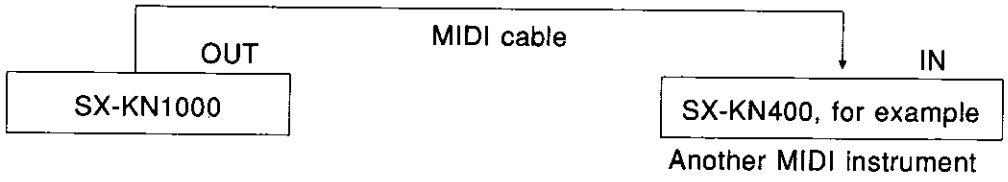
OUT: The terminal that transmits data from this instrument to other equipment.

THRU: The terminal that transfers data from the **IN** terminal directly to other equipment.

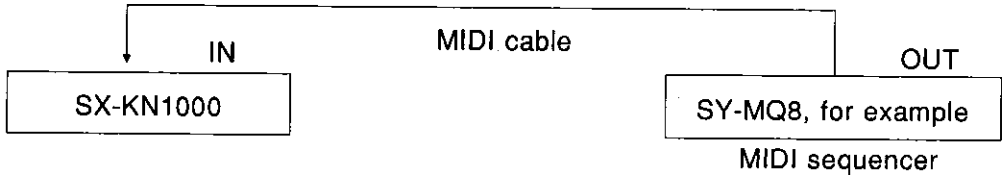
- For these connections, use a commercially available MIDI cable. Contact your Technics dealer for more information.

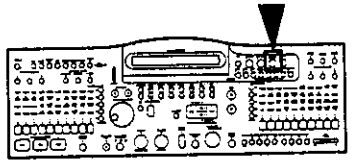
Connection examples

■ To generate sound from a connected instrument by playing this instrument



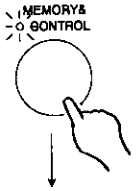
■ To generate sound from this instrument by operating a connected MIDI sequencer

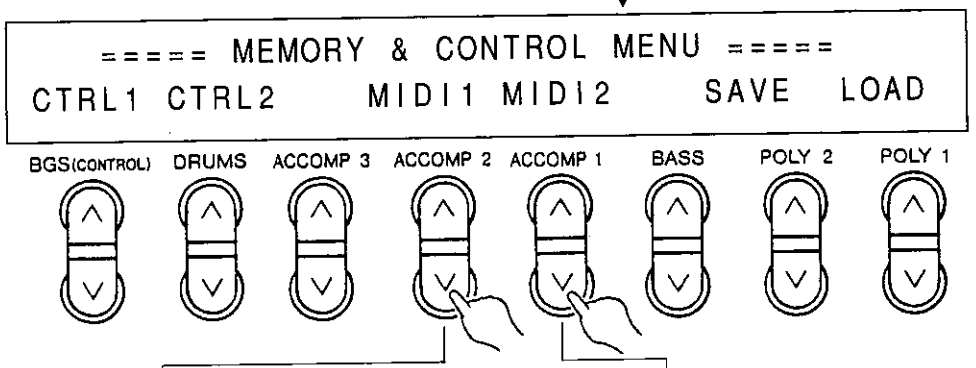




Outline of MIDI functions

Select the various settings which are used to connect this instrument with another MIDI instrument.





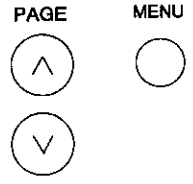
Press to return to this menu at any time.

[MIDI1]
Functions which are different for each part

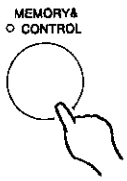
- 1: BASIC CH
- 2: CTRL MESSAGE1
- 3: CTRL MESSAGE2
- 4: IN/OUT CTRL
- 5: P. MEM PROGRAM CHANGE CONTROL
- 6: EXPRESSION CONTROL
- 7: INTRO. FILL IN. ENDING CONTROL
- 8: APC CONTROL

[MIDI2]
Functions which are common to all MIDI parts

- 1: REALTIME SETTING
- 2: COMMON SETTING1
- 3: COMMON SETTING2
- 4: INPUT SELECT
- 5: OUTPUT SELECT
- 6: MIDI DRUM TYPE SETTING
- 7: P. MEM OUTPUT CTRL
- 8: MIDI SYSTEM EXCLUSIVE



Use to change the page.



Press when you have finished making the settings.

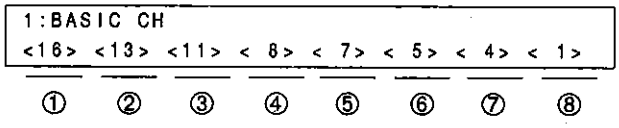
Set the functions which are different for each part

Select the MIDI 1 menu and set each function.

- In the descriptions below, a * mark indicates the default setting.

BASIC CH <BASIC CHANNEL> (MIDI1: PAGE 1)

Many different kinds of performance data are sent using just one MIDI cable. This is possible because MIDI signals are sent and received through 16 different "basic channels" (numbered 1~16). In order for the exchange of data to take place, the channels on the transmission side must match the channels on the receiving side. Channel numbers have already been assigned to parts (default settings) but you can reassign channel number to parts as follows.



Select the channel for each part with the ①~⑧ buttons.

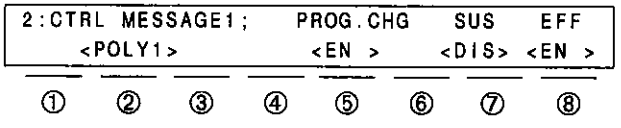
- The MIDI parts correspond to the parts indicated on the balance buttons.
- Select from 1~16. The same channel number cannot be assigned to more than one part. If you attempt to do so, the number flashes.

■ Default channel settings

Part	Channel
POLY 1	1
POLY 2	4
ACCOMP 1	3
ACCOMP 2	5
ACCOMP 3	9
BASS	10
DRUMS	15
CONTROL	16

CONTROL MESSAGE 1 (MIDI1: PAGE 2)

Set the transmit/receive data for each part.



1. Select the part with the ② buttons.
2. Select <EN> (enable) or <DIS> (disable) for each item.

■ PROG. CHG (PROGRAM CHANGE)
Enable or disable the exchange of program change (sound change) data with the ⑤ buttons.
<EN>*: Program change data is transmitted/received.
<DIS>: Program change data is not transmitted/received.
- When program change data is received on the channel for the **CONTROL** part, it is recognized as **BGS** change data; when received on the channel for the **DRUMS** part, it is recognized as **RHYTHM SELECT** change data.

■ SUS (SUSTAIN)
Enable or disable the exchange of sustain on/off data with the ⑦ buttons.
<EN>*: Sustain on/off data is transmitted/received.
<DIS>: Sustain on/off data is not transmitted/received.
- This setting is not available for the **DRUMS** and **CONTROL** parts.

■ EFF (EFFECT)
Enable or disable the exchange of **DIGITAL EFFECT** on/off data with the ⑧ buttons.
<EN>*: **DIGITAL EFFECT** on/off data is transmitted/received.
<DIS>: **DIGITAL EFFECT** on/off data is not transmitted received.
- This setting is not available for the **DRUMS** and **CONTROL** parts.

CONTROL MESSAGE 2 (MIDI1: PAGE 3)

Set the transmit/receive data for each part.

```
3:CTRL MESSAGE2;   P.BEND    MOD   VOL
    <POLY1>=        <EN >   <DIS> <EN >
     ①  ②  ③  ④  ⑤  ⑥  ⑦  ⑧
```

1. Select a part with the ② buttons.

2. Select <EN> or <DIS> for each item.

■ P. BEND (PITCH BEND)
Enable or disable exchange of pitch bend data with the ⑤ buttons.
<EN>*: Pitch bend data is transmitted/received.
<DIS>: Pitch bend data is not transmitted/received.
- This setting is not available for the **DRUMS** and **CONTROL** parts.

■ MOD (MODULATION)
Enable or disable the exchange of modulation data with the ⑦ buttons.
<EN>*: Modulation data is transmitted/received.
<DIS>: Modulation data is not transmitted/received.
- This setting is not available for the **DRUMS** and **CONTROL** parts.

■ VOL (VOLUME)
Enable or disable the exchange of volume data for each part with the ⑧ buttons.
<EN>*: Volume data for each part is transmitted/received.
<DIS>: Volume data for each part is not transmitted/received.
- The **MAIN VOLUME** data is transmitted/received on the channel for the **CONTROL** part.

IN/OUT CONTROL (MIDI1: PAGE 4)

Set MIDI data input/output for each part.

```
4:IN/OUT CTRL; OCTAVE   MIDI.OUT   LOCAL
    <POLY1>=    <-1>     <ON >     <OFF>
     ①  ②  ③  ④  ⑤  ⑥  ⑦  ⑧
```

1. Select a part with the ② buttons.

2. Set each item.

■ OCTAVE (OCTAVE SHIFT)
Set the octave shift value for received/transmitted key notes with the ④ buttons.
- Select one from –3, –2, –1, 0*, +1, +2, +3.
- Octave shift is set for MIDI **OUT** data only; however, the MIDI **OUT** and MIDI **IN** octave shifts are linked. For example, if the MIDI **OUT** octave shift is set to +1, the MIDI **IN** octave shift is automatically set to –1.
- This setting is not available for the **CONTROL** part.

■ MIDI OUT
Specify, for each part, whether MIDI data is sent to the MIDI **OUT** terminal or not with the ⑥ buttons.
<ON>*: MIDI data is transmitted.
<OFF>: MIDI data is not transmitted.

■ LOCAL (LOCAL CONTROL)
Specify, for each part, whether this instrument's sound generator is enabled or not with the ⑧ buttons.
<ON>*: The performance played on this instrument's keyboard is transmitted as MIDI data and also sounds from this instrument (when MIDI OUT is set to ON).
<OFF>: The performance played on this instrument's keyboard is transmitted as MIDI data but does not sound from this instrument (when MIDI OUT is set to ON).

P. MEM PROGRAM CHANGE CONTROL <PANEL MEMORY PROGRAM CHANGE CONTROL> (MIDI1: PAGE 5)

Enable or disable the exchange of program change (**SOUND SELECT**) data for the **POLY 1** part using the **PANEL MEMORY** buttons.

```
5:P.MEM PROGRAM CHANGE CONTROL
                          POLY1 CH <EN >
```
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Select <EN> or <DIS> with the ⑧ buttons.
<EN>: Program change data for the **POLY 1** part is transmitted/received when a **PANEL MEMORY** button is selected.
<DIS>*: Program change data is not transmitted/received.
- Program change data is transmitted/received through the basic channel for the **POLY 1** part.

EXPRESSION CONTROL (MIDI1: PAGE 6)

Enable or disable the exchange of expression data.
- The expression pedal is sold separately.

```
6:EXPRESSION CONTROL
                          CONTROL CH <EN >
```
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Select <EN> or <DIS> with the ⑧ buttons.
<EN>: Expression data is transmitted/received.
<DIS>*: Expression data is not transmitted/received.
- Data is transmitted/received on the channel for the **CONTROL** part.

INTRO. FILL IN. ENDING CONTROL (MIDI1: PAGE 7)

Enable or disable the exchange of intro, fill-in and ending data.

```
7:INTRO,FILL IN,ENDING CONTROL
                          DRUMS CH <EN >
```
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Select <EN> or <DIS> with the ⑧ buttons.
<EN>*: Data is transmitted/received.
<DIS>: Data is not transmitted/received.
- Data is transmitted/received on the channel for the **DRUMS** part.

APC CONTROL (MIDI1: PAGE 8)

Enable or disable the exchange of data for the on/off status of the **AUTO PLAY CHORD**'s **ONE FINGER** and **FINGERED** buttons.

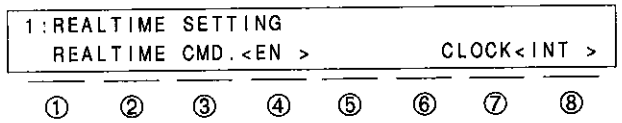
Select <EN> or <DIS> with the ⑧ buttons.
<EN>: Data is transmitted/received.
<DIS>*: Data is not transmitted/received.
- Data is transmitted/received on the channel for the **ACCOMP 1** part.

Set the functions which are common to all MIDI parts

Select the MIDI 2 menu and set each function.
- In the descriptions below, a * mark indicates the default setting.

REALTIME SETTING (MIDI2: PAGE 1)

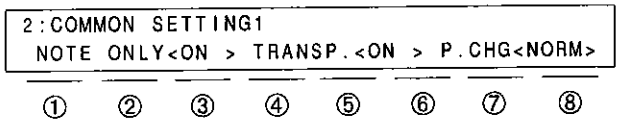
Set the realtime command transmit/receive settings and the clock mode.



■ REALTIME CMD. (REALTIME COMMAND)
Select <EN>* (enable) or <DIS> (disable) with the ④ buttons.
<EN>: Start/stop, continue, and song position pointer data is transmitted/received.
<DIS>: Above data is not transmitted/received.

■ CLOCK
Select <INT>* (internal) or <MIDI> with the ⑧ buttons.
<INT>: This instrument's internal clock is used to control the performance. The clock of the connected equipment is disabled.
<MIDI>: The clock of the connected equipment is used to control the performance. This instrument's clock is disabled.
- <INT> is automatically selected when the power is turned on.

COMMON SETTING1 (MIDI2: PAGE 2)



■ NOTE ONLY
Select <ON> or <OFF>* with the ③ buttons.
<ON>: Of the performance data, only note on/off and all-note-off data is transmitted/received.
<OFF>: All performance data used in the SX-KN1000 is transmitted/received.

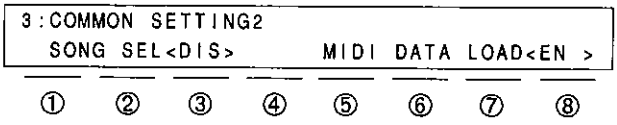
■ TRANSP. (TRANSPOSE)
Select <ON> or <OFF>* with the ⑤ or ⑥ buttons.
<ON>: The note number of the transposed note is transmitted.
<OFF>: The note number of the played key is transmitted.

■ P. CHG (PROGRAM CHANGE)
Select <NORM>* (normal) or <TECH> with the ⑧ buttons.

<NORM>: The program change numbers correspond to the order of the buttons in the **SOUND SELECT** matrix as they are lined up from the leftmost button of the bottom row and beginning with 0.

<TECH>: Program change numbers are standardized among all Technics models which are set to this mode: the program change number assigned to a given sound on one model is assigned to the same sound on all models which are set to the same mode.

COMMON SETTING2 (MIDI2: PAGE 3)

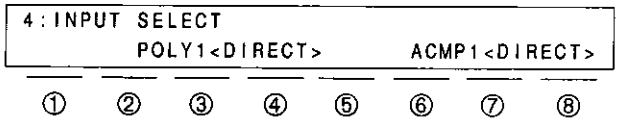


■ SONG SEL (SONG SELECT)
Select <EN>* (enable) or <DIS> (disable) with the ③ buttons.
<EN>: Song number data is transmitted/received.
<DIS>: Song number data is not transmitted/received.

■ MIDI DATA LOAD
Select <EN>* (enable) or <DIS> (disable) with the ⑧ buttons.
<EN>: When the operation to load the memory disk is performed, the MIDI settings stored on the disk are automatically recalled.
<DIS>: MIDI settings stored on the disk are not recalled.

INPUT SELECT (MIDI2: PAGE 4)

Set the mode for MIDI key note input when performance data is received.



■ POLY1
Select <COND> (CONDUCTOR) or <DIRECT>* with the ④ buttons.
<COND>: Performance data for the **POLY 1** part only is received; the sound produced is determined by the **CONDUCTOR** settings. (Use when only one basic channel is used to receive signals.)
<DIRECT>: Performance data for all parts is received; this instrument's **CONDUCTOR** is inoperative. (This instrument is used as a sound generator when each part is played independently on the connected instrument.)

- The maximum number of notes which can sound simultaneously for each part is as follows:

POLY 1	32	The maximum number of notes for all parts combined is 32.
POLY 2	32	
ACCOMP 1	8	
ACCOMP 2	8	
ACCOMP 3	8	
BASS	8	
DRUMS	8	

■ ACMP1 (ACCOMP 1)
Select <APC> (AUTO PLAY CHORD) or <DIRECT>* with the ⑧ buttons.
<APC>: The key note data received for the **ACCOMP 1** part is used for the **AUTO PLAY CHORD** to produce an accompaniment pattern.
<DIRECT>: The **ACCOMP 1, 2** and **3** part sounds are produced according to the received performance data; the key note data is not used for the **AUTO PLAY CHORD**.

OUTPUT SELECT (MIDI2: PAGE 5)

Set the MIDI output mode.

```
5:OUTPUT SELECT
 TECHNI-CD<ON >  DRUM<ON >   ACMP< APC >
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

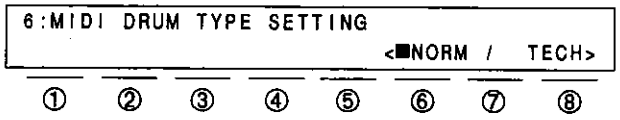
■ TECHNI-CD (TECHNI-CHORD)
Select <ON> or <OFF>* with the ③ buttons.
<ON>: When the **TECHNI-CHORD** button is on, keyboard notes created by the **TECHNI-CHORD** function are also transmitted for the **POLY** parts.
<OFF>: Only key note data of the pressed keys is transmitted.

■ DRUM
Select whether to transmit the **DRUMS** notes with the ⑤ buttons.
<ON>: Key note data from the selected rhythm pattern is transmitted as performance data.
<OFF>*: Key note data from the rhythm pattern is not transmitted.

■ ACMP (ACCOMP)
Select <APC> (**AUTO PLAY CHORD**) or <CHORD>* with the ⑧ buttons.
<APC>: Key note data for the **ACCOMP** and **BASS** of the **AUTO PLAY CHORD**, based on the chords played on the keyboard, is transmitted as performance data.
<CHORD>: Chords are transmitted just as they are played on the keyboard. The derived **AUTO PLAY CHORD** accompaniment is not transmitted.

MIDI DRUM TYPE SETTING (MIDI2: PAGE 6)

Specify how key note data is handled when **DRUMS** messages are transmitted/received.



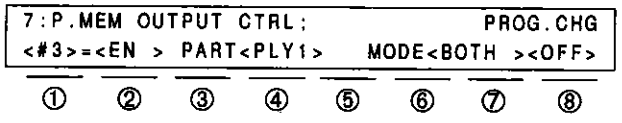
Select the drum type with the ⑥ and ⑧ buttons. (A ■ mark indicates the selected setting.)

<NORM>*: **KEYBOARD PERCUSSION** instrument sounds are transmitted/received corresponding to this instrument's key note numbers.

<TECH>: This instrument's **KEYBOARD PERCUSSION** instrument sounds correspond to the same key note numbers for connected Technics models set to this type.

P. MEM OUTPUT CONTROL <PANEL MEMORY OUTPUT CONTROL> (MIDI2: PAGE 7)

Store the LOCAL CONTROL mode setting and program changes in each **PANEL MEMORY** button. During the performance, you can then change the settings with the **PANEL MEMORY** buttons.



1. Select the **PANEL MEMORY** number (**1~8**) with the ① buttons.

2. Select <EN> or <DIS>* with the ② buttons.

<EN>: Program change and LOCAL CONTROL data is transmitted.

<DIS>: Program change and LOCAL CONTROL data is not transmitted.

3. Select the part with the ④ buttons.
- Select from PLY1, PLY2, and BASS.

4. Specify the program change number with the ⑧ buttons.
- Select one from OFF or 0~127.
- If <DIS> was selected in step 2, this setting is not necessary.

5. If desired, repeat steps 3 and 4 for other parts.

6. Select the LOCAL CONTROL mode for the selected **PANEL MEMORY** button with the ⑦ buttons.

<LOCAL>: Notes played on the keyboard sound from this instrument; the note data and control messages are not transmitted to the MIDI **OUT** terminal.

<MIDI>: Notes played on the keyboard do not sound from this instrument; the note data and control messages are transmitted to the MIDI **OUT** terminal.

<BOTH>: Notes played on the keyboard sound from this instrument and the note data and control messages are also transmitted to the MIDI **OUT** terminal.

<– – –>: Notes played on the keyboard do not sound from this instrument; the note data and control messages are not transmitted to the MIDI **OUT** terminal.

MIDI SYSTEM EXCLUSIVE (MIDI2: PAGE 8)

Between KN1000 instruments, this instrument's additional MIDI data ("system exclusive data") can be transmitted and received.

- Except for the balance buttons, the keys and buttons of this instrument do not function during the setting procedures on this PAGE.

```
8:MIDI SYSTEM EXCLUSIVE
[ALL]    [COMP][SEQ] [SOUND MEM.][PANEL]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

■ Transmitting

1. Select the type of data which is transmitted.

① [ALL]: All data is transmitted.
③ [COMP]: Only **COMPOSER** data is transmitted.
④ [SEQ]: Only **SEQUENCER** data is transmitted.
⑤ ⑥ [SOUND MEM.]: Only sound data is transmitted.
⑧ [PANEL]: Panel settings and **PANEL MEMORY** data is transmitted.

- The confirmation display appears. Example: when [SOUND MEM.] has been selected.

```
MIDI SYSTEM EXCLUSIVE SEND
<SOUND MEM.> Are you sure?  [NO] [YES]
```

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

2. Press either ⑧ for [YES], and data transmission begins.

- You can press either ⑦ button for [NO] to cancel the data transmission procedure.
- The following display is shown during data transmission.

```
MIDI SYSTEM EXCLUSIVE      <SOUND MEM.>
SENDING *****.....
```

- The data total is indicated by ...., and the transmitted data is indicated by *.
- When the data has been successfully transmitted, "COMPLETED!!" is shown on the display.
- If data transmission is unsuccessful, the following error message appears on the display.

```
*** Transmit error !! ***
```

■ Receiving

1. Go to this PAGE on the display.
2. On the transmitting instrument, perform the procedure for transmitting. (Refer to "Transmitting" above.)

- The following display is shown during data reception.

```
MIDI SYSTEM EXCLUSIVE      <SOUND MEM.>
RECEIVING  *****.....
```

- The data total is indicated by ...., and the received data is indicated by *.
- When the data has been successfully received, "COMPLETED!!" is shown on the display.
- If data reception is not successful, the following error message appears on the display.

```
*** Receive error !! ***
```

- If data is received from a different model, the following error message appears on the display.

```
Error !!
*** ID code mismatch ***
```

MIDI Implementation Chart

Keyboard
[SX-KN1000]

(Transmitted)

Function		POLY 1	POLY 2	ACCOMP 1	ACCOMP 2	ACCOMP 3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default	1~16	1~16	1~16	1~16	1~16	1~16	1~16	1~16	memorized
	Changed	1~16	1~16	1~16	1~16	1~16	1~16	1~16	1~16	
Mode	Default	3	3	3	3	3	3	3	3	OMNI OFF, POLY MODE
	Messages	×	×	×	×	×	×	×	×	
	Altered	—	—	—	—	—	—	—	—	
Note Number		0~127	0~127	0~127	0~127	0~127	0~127	0~127	—	Changes depending on the position of the transpose control and octave shift.
	True voice	—	—	—	—	—	—	—	—	
Velocity	Note ON	○	○	○	○	○	○	○	—	
	Note OFF	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	—	
After Touch	Key's	×	×	×	×	×	×	×	×	
	Ch's	×	×	×	×	×	×	×	×	
Pitch Bender		*○×	*○×	*○×	*○×	*○×	*○×	×	×	
Control Change	1	*○×	*○×	*○×	*○×	*○×	*○×	×	×	modulation
	7	*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	volume (main volume)
	11	×	×	×	×	×	×	×	*○×	expression pedal
	64	*○×	*○×	*○×	*○×	*○×	*○×	×	×	sustain
	80	×	×	*○×	×	×	×	×	×	auto play chord
	82	×	×	×	×	×	×	*○×	×	intro, fill in, ending
	93	*○×	*○×	*○×	*○×	*○×	*○×	×	×	chorus
	0, 32	*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	bank select (only for Technics mode and when program change data exchange is enabled)
Prog Change		*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	
	True #	—	—	—	—	—	—	—	—	
System exclusive		○								
System common	Song Pos	*○×								
	Song Sel	*○×								0~19
	Tune	×								
System Real Time	Clock	○								
	Commands	*○×								start/stop, continue
Aux Messages	Local ON/OFF	×	×	×	×	×	×	×	—	
	All notes OFF	○	○	○	○	○	○	○	—	
	Active Sense	○								
	Reset	×								
Notes	* ○ × .....Whether or not the data for each of these items is transmitted can be set.									

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes
Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

MIDI Implementation Chart

Keyboard
[SX-KN1000]

(Recognized)

Function		POLY 1	POLY 2	ACCOMP 1	ACCOMP 2	ACCOMP 3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default	1~16	1~16	1~16	1~16	1~16	1~16	1~16	1~16	memorized
	Changed	1~16	1~16	1~16	1~16	1~16	1~16	1~16	1~16	
Mode	Default	3	3	3	3	3	3	3	3	OMNI OFF, POLY MODE
	Messages	×	×	×	×	×	×	×	×	
	Altered	—	—	—	—	—	—	—	—	
Note Number		0~127	0~127	0~127	0~127	0~127	0~127	0~127	—	Changes depending on the position of the transpose control octave shift, and sound.
	True voice	0~127	0~127	0~127	0~127	0~127	0~127	36~83	—	
Velocity	Note ON	○	○	○	○	○	○	○	—	
	Note OFF	×	×	×	×	×	×	×	—	
After Touch	Key's	×	×	×	×	×	×	×	×	
	Ch's	×	×	×	×	×	×	×	×	
Pitch Bender		*○×	*○×	*○×	*○×	*○×	*○×	×	×	
Control Change	1	*○×	*○×	*○×	*○×	*○×	*○×	×	×	modulation
	7	*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	volume (main volume)
	11	×	×	×	×	×	×	×	*○×	expression pedal
	64	*○×	*○×	*○×	*○×	*○×	*○×	×	×	sustain
	80	×	×	*○×	×	×	×	×	×	auto play chord
	82	×	×	×	×	×	×	*○×	×	intro, fill in, ending
	93	*○×	*○×	*○×	*○×	*○×	*○×	×	×	chorus
	0, 32	*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	bank select (only for Technics mode and when program change data exchange is enabled)
Prog Change		*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	
	True #	0~49 0~7**	0~49	0~49	0~49	0~49	0~49	0~49	0~6	
System exclusive		○								
System common	Song Pos	*○×								
	Song Sel	*○×								0~19
	Tune	×								
System Real Time	Clock	○								
	Commands	*○×								start/stop, continue
Aux Messages	Local ON/OFF	×	×	×	×	×	×	×	—	
	All notes OFF	○	○	○	○	○	○	○	—	
	Active Sense	○								
	Reset	×								
Notes		* ○ × .....Whether or not the data for each of these items is received can be set. **Panel memory program change								

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes

Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

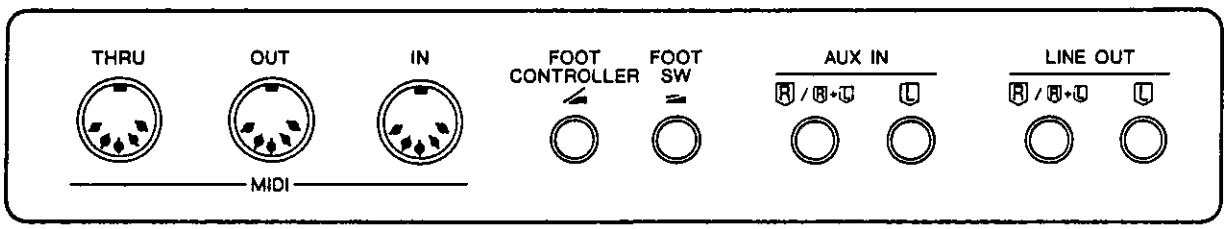
Options and connections

This page shows the optional accessories that are available for your Technics Keyboard. These can make your instrument more versatile and fun to play than it already is.

Also indicated are the many possible connections to the rear accessory panel.

Connections

(on the rear panel)



FOOT CONTROLLER
The optional SZ-E2 Expression Pedal (sold separately) can be connected to this terminal to control the volume.

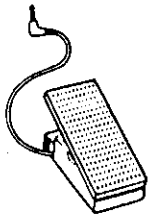
FOOT SW
The optional SZ-P1 Foot Switch (sold separately) can be connected to this terminal to control various functions. (Refer to page 96.)

AUX IN (input level 0.5 Vrms, 33 kΩ)
Other instruments such as a sound generator can be connected to this terminal, and the sound will be output from the Keyboard's speakers. To receive monaural sound, connect the other instrument to the **R/R+L** terminal. (Do not connect the **L** terminal.)

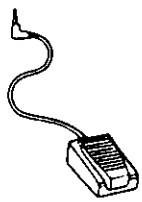
LINE OUT (output level 1.5 Vrms, 600 Ω)
By connecting an external high-power amplifier, the sound can be reproduced at a high volume. To output monaural sound, connect the external equipment to the **R/R+L** terminal. (Do not connect the **L** terminal.)

MIDI
These terminals are for connection to another MIDI instrument. (Refer to page 105.)

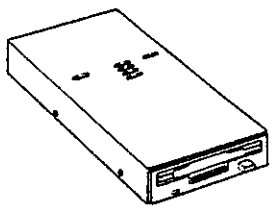
Separately sold options



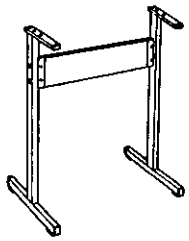
SZ-E2
Expression Pedal



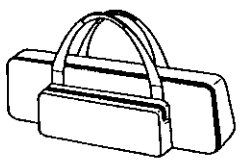
SZ-P1
Foot Switch



SY-FD20
Digital Disk Recorder



SZ-S61
Stand



SZ-B7
Carrying Bag

Cautions for safest use of this unit

Installation location

1. **A well-ventilated place.**
   Take care not to use this unit in a place where it will not receive sufficient ventilation, and not to permit the ventilation holes to be covered by curtains, or any similar materials.
2. **Place away from direct sunlight and excessive heat from heating equipment.**
3. **A place where humidity, vibration and dust are minimized.**

Power source

1. **Be sure the line voltage selector is in accordance with local voltage in your area before connecting the plug to the socket.**
2. **DC power cannot be used.**

Handling the power cord

1. **Never touch the power cord, or its plug, with wet hands.**
2. **Don't pull the power cord.**

Metal items inside the unit may result in electric shock or damage.

Do not permit metal articles to get inside the unit.

Be especially careful with regard to this point if children are near this unit. They should be warned never to try to put anything inside.

If, nevertheless, some such article does get inside, disconnect the power cord plug from the electrical outlet, and contact the store where the unit was purchased.

If water gets into the unit

Disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

As a precaution, it is suggested that flower vases and other containers which hold liquids not be placed on the top of this unit.

If operation seems abnormal

Immediately turn off the instrument, disconnect the power cord plug from the electrical outlet, and contact the store where it was purchased.

Discontinue using the unit at once. Failure to do so may result in additional damage or some other unexpected damage or accident.

A word about the power cord

If the power cord is scarred, is partially cut or broken, or has a bad contact, it may cause a fire or serious electrical shock if used. NEVER use a damaged power cord for any appliance. Moreover, the power cord should never be forcibly bent.

Don't touch the inside parts of this unit.

Some places inside this unit have high voltage potential. Never try to remove the top or back panels of this unit, or to touch inside parts by hand or with tools.

Contact someone who is qualified in order to inspect the inside, or to replace a fuse, if such becomes necessary. Never attempt to do these things yourself.

Maintenance

The following suggestions will assist you in keeping the unit in top condition.

- Be sure to switch the instrument off after use, and do not switch the unit on and off in quick succession, as this places an undue load on the electronic components.
- To keep the luster of the surface and buttons, simply use a clean, damp cloth; polish with a soft, dry cloth. Polish may be used but do not use thinners or petro-chemical-based polishes.
- A wax-based polish may be used on the cabinet, although you will find that rubbing with a soft cloth will suffice.

SERVICE MUST BE CARRIED OUT BY DEALER OR OTHER QUALIFIED PERSON.

Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics Keyboard but do not indicate trouble.

	Phenomenon	Remedy
Sounds and effects	The buttons, keys, etc. malfunction.	• Turn off the **POWER** button once, then turn it on again. If this procedure is not successful, turn off the **POWER** button once. Then, while pressing the three lower left buttons in the **RHYTHM SELECT** section (**1**, **2** and **3**) at the same time, turn the **POWER** button on again. (Note that, in this case, all programmable settings, functions and memories return to their factory-preset status.)
	No sound is produced when the keys are pressed.	• The **MAIN VOLUME** is at the minimum setting. Adjust the volume with the **MAIN VOLUME** control. • The **DEMO** ♪ button is on. ("DEMONSTRATION SONG" is shown on the display.) Press the **DEMO** ♪ button to turn it off. The display returns to the normal performance display. (Refer to page 8.) • The volumes for the selected parts are set to the minimum levels. Use the balance buttons to set the volumes of the relevant parts to appropriate levels. (Refer to page 26.) • The local control for a part performed on the keyboard is set to OFF. Set the local control to ON. (Refer to page 109.)
	When a chord is played, the sound of each key is different.	• The selected sound is a TRIO mode sound. TRIO mode sounds produce a different sound for each chord note. (Refer to page 48.)
	Only percussive instrument sounds are produced when the keyboard is played.	• The **KEYBOARD PERCUSSION** button is on. Turn it off to return the keyboard to the normal sound.
Rhythm	The rhythm does not start.	• The **DRUMS** volume is set to the minimum level. Use the balance buttons to set the **DRUMS** volume to an appropriate level. • In the **RHYTHM SELECT** section, a **COMPOSER** number button with no stored pattern was selected. Change the rhythm or store a new rhythm pattern in the **COMPOSER**. (Refer to page 56.) • The MIDI clock is set the external clock. Set the MIDI clock to the internal <INT> clock. (Refer to page 110.)
AUTO PLAY CHORD	No sound is produced for the automatic accompaniment.	• In the **RHYTHM SELECT** section, a **COMPOSER** number button with no stored pattern was selected. Change the rhythm or store a new rhythm pattern in the **COMPOSER**. (Refer to page 56.)
	No sound is produced for the automatic accompaniment, or only the sounds of some parts are produced.	• An **ACCOMP** part does not sound if its corresponding volume is set to the minimum level. Use the respective balance buttons to set the **ACCOMP 1**, **2** and **3** volumes to appropriate levels.

COMPOSER	Storage is not possible.	• The remaining memory capacity of the **COMPOSER** is 0. Erase a different **COMPOSER** number button in the **RHYTHM SELECT** section in which a pattern is stored. (Refer to page 57.) • The **SEQUENCER** memory is set to the <EXPAND> mode. Follow the procedure to set the **SEQUENCER** memory to the <NORMAL> mode. (Refer to page 97.)
	Setting the time signature and number of measures is not possible.	• The time signature and number of measures cannot be changed for a pattern which is currently recorded in the **COMPOSER**. If you wish to change the time signature and/or measure data, first follow the procedure to clear the memory. (Refer to page 57.)
	The playback timing of the rhythm pattern is different from the timing with which it was recorded.	• The quantize function was on when the pattern was recorded and the timing was automatically corrected. Set the quantize level to a smaller note unit or to OFF when recording. (Refer to page 59.)
SEQUENCER	Storage is not possible.	• The remaining memory capacity of the **SEQUENCER** is 0. Follow the SONG CLEAR or TRACK CLEAR procedure to erase the memory. (Refer to page 84.)
	Multi-track storage is not possible.	• The playback track has been selected, but the **START/STOP** button has not been pressed. A flashing track indicator shows the track which is ready for recording, and a lit track indicator shows a track which is ready for playback. To record one track while listening to another (playback) track, press the **START/STOP** button to begin playback. (Refer to page 72.)
	The playback measure indication is different from when the performance was recorded.	• The number of measures corresponds to the time signature of the rhythm selected at the start of recording. To change the rhythm in the middle of the song, record the rhythm change in the **RHYTHM** track. (Refer to page 70.)
Digital Disk Recorder	The Digital Disk Recorder produces a noise during recording or playback.	• This occurs when the Digital Disk Recorder is reading a disk. It does not indicate a problem.
	When the procedure to load from a memory disk is performed, the contents of the **SEQUENCER** memory are erased.	• When performing the load operation from a memory disk, the **SEQUENCER** memory changes to that of the data loaded from the memory disk. If you wish to preserve a song which is stored in the **SEQUENCER** memory, save it in a memory disk before performing the load procedure. (Refer to page 102.)
Other	Noise from a radio or TV can be heard.	• This sometimes occurs when electrical equipment such as a radio or TV is used near the instrument. Try moving such electrical equipment further away from the instrument. • The sound may be coming from a nearby broadcast station or amateur radio station. If the sound is bothersome, consult your dealer or servicenter.
	The cabinet becomes warm during use.	• This instrument has a built-in power source that heats the cabinet to some degree. This is not an indication of trouble.

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Specifications

			SX-KN1000
KEYBOARD			61 KEYS (TOUCH SENSITIVE KEYBOARD)
SOUND GENERATOR			PCM
MAXIMUM NUMBER OF NOTES PRODUCED SIMULTANEOUSLY			32 NOTES (A MAXIMUM OF 8 SIMULTANEOUSLY PRESSED KEYS CAN BE INPUT)
SOUNDS	PRESET	POLY 1, POLY 2, BASS	120 SOUNDS (40 SOUNDS x 3 VARIATIONS) PIANO 1, 2, E GRAND, E PIANO 1, 2, HARPSICHORD, MALLET 1, 2, AFRICAN PERC, ORIENTAL PERC, GUITAR, JAZZ GUITAR, SOLID GUITAR, ROCK GUITAR, SPECIAL PERC, PIPE ORGAN, JAZZ ORGAN, POP ORGAN, VIOLIN, STRINGS, BRASS, TRUMPET, TROMBONE, SYNTH BRASS 1, 2, SYNTH PERC, SYNTH LEAD 1, 2, SYNTH ENSEMBLE 1, 2, SAX, CLARINET, REED, ACCORDION, FLUTE, PAN FLUTE, ACOUSTIC BASS, ELECTRIC BASS, CHOPPER BASS, SYNTH BASS
	EDIT	BASIC	TONE, PITCH, ENVELOPE, VIBRATO, TOUCH SENSE, MEMORY WRITE & NAME SET
		EFFECT	DIGITAL EFFECT, AUTOBEND & TRILL, MODULATION, OTHERS, MEMORY WRITE & NAME SET
		SOUND MEMORY	10 x 3 MEMORY
BACKGROUND SOUND			14 SOUNDS (7 SOUNDS x 2 VARIATIONS) BIRD, BEACH, CHURCH BELL, CITY, APPLAUSE, EXPLOSION, SPACE, FADE OUT
EFFECT			DIGITAL EFFECT, SUSTAIN, DIGITAL REVERB, PITCH BEND WHEEL, MODULATION WHEEL
RHYTHM	RHYTHM SELECT		120 PATTERNS (40 PATTERNS x 3 VARIATIONS) MARCH 1, 2, POLKA, COUNTRY 1, 2, WALTZ 1, 2, TANGO, RHUMBA, MAMBO, BIG BAND 1, 2, JAZZ COMBO, JAZZ BALLAD, MODERN JAZZ, DIXIE, JAZZ WALTZ, BOSSA NOVA, MODERN BOSSA, SAMBA, 8 BEAT 1, 2, 3, HARD ROCK, ROCK 'N' ROLL, SHUFFLE, ROCK BALLAD, SAMBA ROCK, LATIN ROCK, MODERN LATIN, 16 BEAT 1, 2, 3, JAZZ ROCK 1, 2, SWING ROCK, FUNK, ELECTRO POP, DISCO 1, 2
	CONTROLS		START/STOP, SYNCHRO & BREAK, INTRO & ENDING, FILL IN 1, 2, COUNT INTRO, TEMPO
	MANUAL PERCUSSION		PAD 1, 2, 3
	KEYBOARD PERCUSSION		48 KEYS
AUTO PLAY CHORD			AUTO PLAY CHORD (ONE FINGER, FINGERED, MEMORY), DYNAMIC ACCOMP, ONE TOUCH PLAY, MUSIC STYLE ARRANGER
TECHNI-CHORD			○
PANEL MEMORY			SET, 1~8
COMPOSER			5 TRACKS (PARTS: BASS, ACCOMP 1, ACCOMP 2, ACCOMP 3, DRUMS) MEMORY: 1~10 STORAGE CAPACITY: APPROX. 2400 NOTES INPUT MODES: REALTIME, STEP EDIT FUNCTIONS: COPY, RECORD CHORD SETTING
SEQUENCER			8 TRACKS (PARTS: POLY 1, POLY 2, BASS, ACCOMP 1/CHORD, ACCOMP 2, ACCOMP 3, DRUMS, CONTROL) STORAGE CAPACITY: APPROX. 4900 NOTES (EXPANDED: APPROX. 6600 NOTES) INPUT MODES: REALTIME, STEP EDIT FUNCTIONS: SONG CLEAR, TRACK CLEAR, VELOCITY CHANGE, QUANTIZE, TRACK MERGE, MEASURE DELETE, MEASURE ERASE, MEASURE INSERT, MEASURE COPY
DISPLAY			MUSICAL DIRECTOR: LIQUID CRYSTAL DISPLAY (40 CHARACTERS x 2 LINES), CONTRAST
DEMO			○
MIDI			PART INDEPENDENT: BASIC CHANNEL, CONTROL MESSAGE 1, 2, IN/OUT CONTROL, PANEL MEMORY PROGRAM CHANGE CONTROL, EXPRESSION CONTROL, INTRO•FILL IN•ENDING CONTROL, APC CONTROL PART COMMON: REALTIME SETTING, COMMON SETTING 1, 2, INPUT SELECT, OUTPUT SELECT, MIDI DRUM TYPE SETTING, PANEL MEMORY OUTPUT CONTROL
CONTROLS			CONDUCTOR (POLY 1, POLY 2, BASS), BALANCE, TEMPO/PROGRAM DIAL, MENU, PAGE, TRANSPOSE, SPLIT POINT
EXTERNAL MEMORY			DIGITAL DISK RECORDER (OPTIONAL: ALREADY INSTALLED IN SOME AREAS)
TERMINALS			HEADPHONE TERMINAL, LINE OUT (R/R+L, L), AUX IN (R/R+L, L), MIDI (IN, OUT, THRU), FOOT SWITCH, FOOT CONTROLLER
OTHERS			POWER SWITCH, MAIN VOLUME
OUTPUT			10 W x 2
SPEAKERS			12 cm x 2, 6.5 cm x 2
POWER REQUIREMENT			100 W, 70 W (NORTH AMERICA AND MEXICO)
			AC 120/220/240 V 50/60 Hz AC 120 V 60 Hz (NORTH AMERICA AND MEXICO) AC 230 V 50/60 Hz (EUROPE EXCEPT FOR UNITED KINGDOM)
DIMENSIONS (WxHxD)			103.2 cm x 14.0 cm x 37.5 cm (40-5/8" x 5-1/2" x 14-3/4")
NET WEIGHT			10.5 kg (23.1 lbs.)
ACCESSORIES			MUSIC STAND, AC CORD